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Examination regulations for

the master program in Nanoscience and

Nanotechnology

leading to the degree

Master of Science

at the

University of Siegen

April 2017

On the basis of § 2, section 4 and § 64, section 1 of the Law on Universities of North-Rhine Westphalia (Hochschulgesetz - HG) of 16th September 2014 (GV. NRW. S. 547), last amended on 15th of December 2016 (GV. NRW. S. 1154) the University of Siegen has issued the following examination regulations:

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Annex 1

I. I. General Information

§ 1

Scope

These examination regulations apply to all students who have been enrolled at the University of Siegen for the first time into the master's course Nanoscience and Nanotechnology from the winter semester 2017/2018.

§ 2

Aim of the program

The master program is designed for obtaining a degree qualifying for a profession in the field of nanoscience and nanotechnology, as well as for a doctoral program. The goal of this course is the training of executives for industry, business and government as well as young academics.

§ 3

Master degree

Upon successful completion of the studies, the university grants the academic degree "Master of Science" (M.Sc.).

§ 4

Admission Requirements

- (1) A bachelor's degree in physics, chemistry or electrical engineering at a university within the scope of the basic law, or a comparable first-level qualification.
- (2) The admission to the master's degree requires proof of a specific training course related to the course of studies. The suitability assessment for the studies of "Nanoscience and Nanotechnology (M.Sc.)" at the University of Siegen will clarify when necessary.
- (3) English language proficiency at level B2 of the Common European Framework of Reference for Languages or higher is required for studying the course. It is necessary to provide language certificates such as TOEFL (Code No. 8429) 533 (paper-based), 200 (computer-based), 72 (internet-based); or CAE level C; or IELTS grade 6 or equivalent.
- (4) Enrollment is not possible if the candidate has failed to pass a course subject to the relevant examination regulations in a similar study program.

§ 5

Standard study period and required coursework

- (1) The standard study period is 4 semester.
- (2) In order to successfully complete the degree, 120 credit points (CP) are to be acquired in the modules defined in the examination regulations, 30 of which are attributable to the master's thesis.
- (3) Study content and qualification objectives of the individual modules are defined in the module descriptions, which are documented in the module handbook. A course plan is attached as Annex 1 to the examination regulations.
- (4) Based on the course schedule, individual modules should be selected and limited so that the program can be completed within the regular study period.

§ 6

Study structure and modules

- (1) The course is modular and has a credit point system. Each module forms an individual study unit that consists of different module elements, which may include different teaching and study approaches.

(2) Credit points (CP) are awarded if a module is successfully completed. The scope of the credits points is set out in section 4.

(3) Access to a course or module may be subject to the successful participation in another course or module or several other modules. The prerequisites are set out in section 4.

(4) Modules overview:

No.	Title	SL ¹	PL ²	Recommended semester	Hrs / week	CP	Requirements
1	Solid state physics		1	1	4	6	-
2	Solid state physics and advanced mathematical methods		1	1	4	9	-
3	Advanced solid state physics		1	1	4	6	-
4	Quantum theory		1	1	4	6	-
5	General chemistry		1	1	4	9	-
6	Nanoelectronic devices		1	1	4	6	-
7	Nano-research course	1	1	1	6	9	-
8	Nanochemistry		1	2	4	6	-
9	Photonic devices		1	2	4	6	-
10	Nanotechnology		1	2	4	6	-
11	Lab-course Micro and Nanotechnology	1	1	2	4	6	-
12	Lab-course Nanosynthesis, Nanosafety and Nanoanalytics	1	1	2	4	6	-
13	Compulsory elective subject I	(1) ³	1	3	4	6	-
14	Compulsory elective subject II	(1) ³	1	3	4	6	-
15	Compulsory elective subject III	(1) ³	1	3	4	6	-
16	Research Lab-course	1	1	3	8	12	Completed modules from previous semesters
17	Master thesis			4		30	Completed modules from previous semesters

¹ non-graded performance / achievement, ² graded performance / achievement (Examination)

³ Depending on the choice of compulsory elective subjects, completion of non-graded achievements may be necessary (Module handbook).

- (5) Students, who required admission due to their completed Bachelor in Chemistry or equivalent must take modules 2 (Solid state physics and advanced mathematical methods), 4 (Quantum theory), 6 (Nano-electronic devices) and 7 (Nano-research course) in their first semester.

Students, who required admission due to their completed Bachelor in Physics or equivalent must take module 3 (Advanced solid state physics), 5 (General chemistry), 6 (Nano-electronic devices) and 7 (Nano-research course) in their first semester.

Students, who required admission due to their completed Bachelor in Electric Engineering or equivalent must take module 1 (Solid state physics), 4 (Quantum theory), 5 (General chemistry) and 7 (Nano-research course) in their first semester.

§ 7

Examinations and examination periods

The study-accompanying examinations for the modules are carried out in written, practical or oral form.

- (1) The extent of the examinations will be announced by the responsible teacher at the beginning of the course. The form of the assessment must correspond to the information in the current module description. If the module description provides for several possible forms of assessment for an examination, the teacher will indicate the concrete form of the assessment to be performed at the beginning of the course.
- (2) Every year there will be three examinations sessions for each module in order to acquire credit points. Examination periods are the first two weeks after the end of the lecture period and the last two weeks of the semester. The examination deadline will be announced by the Examinations Office.
- (3) Participation in examinations requires registration. The registration deadline begins three weeks before the start of the examination period and ends seven days before the start of the examination period. Candidate must cancel their registration at the latest seven days before the examination date, or it will count as a failed exam.
- (4) The authorized examiner decides on the graded performance of the module. The examination results will be communicated by the examiner to the Examinations Office no later than four weeks after the examination date.
- (5) Application for the first attempt of an examination must take place no later than three semesters after the semester, in which the course subject to the examination must be attended according to the course plan. The deadline is extended by the number of semesters during which the related event or examination could not be offered as planned in this period. Students lose their entitlement to the examination if they do not report for examination within the stipulated period; unless they prove that they are not responsible for the delay of the deadline.
- (6) The master thesis is issued by the Chairman of the Examination Board. The date of issue is recorded in the examination office. The master thesis is written within six months. The topic and the assignment must be such that the master thesis can be completed within the stipulated period. The topic can only be given once and only within the first two months.

§ 8

Free attempt

- (1) If an exam is failed by otherwise continuous studies in consistence with the study schedule (right sequence of the modules, exam taken within 2 weeks of the end of the module) this can in certain circumstances be counted as a free attempt. A second free attempt for the same exam is not possible. This regulation does not apply if the examination was declared to be unsuccessful on the basis of an unlawful conduct, in particular an attempt to deceive.
- (2) Semesters during which the candidate was demonstrably prevented from attending the course due to prolonged serious illness or for any other compelling reason are not included in the paragraph above (1) In the case of the illness, it is necessary that the candidate is immediately examined by a doctor and the medical certificate is submitted with the notification. If at least four weeks of maternity protection fall into the lecture period this will be regarded as a reason for not being able to participate.

- (3) Also not included in (1) are foreign semester studies of up to two semesters if the student has been enrolled at a foreign university for the subject in which she or he wishes to take advantage of the free attempt regulation, when the included modules are in an appropriate scope, usually modules with a total of at least 10 credit points, and were successfully completed.
- (4) Also semesters shall be disregarded to an appropriate extent, but not more than three semesters, if the student has been proven to be a member of statutory or governing bodies of the university.
- (5) Course delays due to disability shall be disregarded, but not more than two semesters.
- (6) It may be possible to repeat an oral or written exam to improve the grade in certain cases (§ 19 Section 7). The application for admission must be submitted to the next examination date.
- (7) If a better grade is achieved when repeating the examination, the better grade is shown on the certificate and is used to calculate the overall grade for the master's degree.

§ 9

Examination board

- (1) The Council of Faculty IV – (School of Science and Technology) is responsible for the organization of the examinations and the assignments defined by this examination regulation. The Audit Committee consists of the chairman, two deputies and four other members. The chairperson, the two deputies, and a further member are elected among the university lecturers, with the chairman and the two deputies being equally selected from the departments of physics, chemistry biology and electrical engineering. One member is selected from the scientific staff members and two members from the students. The members of the Examination Board are elected by their respective members separately from their respective representatives in the Faculty Council. Accordingly, deputies are elected for the members of the Audit Committee, with the exception of the chairman and the deputy. The term of office of the members of the group of university lecturers and of the group of scientific staff is three years, the term of office of the student members one year. Re-election is permitted.
- (2) The Examination Board shall ensure that the provisions of the Examination Regulations are complied with and ensures the proper conduct of the examinations. It is, in particular, always in favour of deciding on objections to decisions taken during the examination procedure. In addition, the Faculty's Examination Board has to report regularly, at least once a year, about the development of the examinations and studies. It provides inspiration for the reform of the examination regulations and the course plans. The Audit Committee may delegate the performance of its tasks to the Chairperson; this does not apply to decisions on contradictions and the report to the Faculty Council.
- (3) The Examination Board shall have a quorum if, in addition to three university lecturers, at least two other voting members are present. The board decides by a simple majority. In the event of a tie, the vote of the chairman decides. The student members of the Examination Board are not involved in the recognition of academic and graded performance.
- (4) The members of the Examination Board have the right to attend the examination.
- (5) The meetings of the Audit Committee are not public. The members of the Examination Board and their deputies shall be subject to confidentiality. Unless they are in the civil service, they shall be obliged to disclose their secrecy by the chairman or presidents of the Audit Committee.
- (6) The Examination Board is an authority within the meaning of the Administrative Procedure Law.
- (7)

§ 10

Authorized Examiner and assessors

- (1) Authorised examiners are members of the teaching staff (§ 65 Section 1) who
 1. regularly offer lectures in the relevant courses (the Dean decides upon exceptions in consultation with the Examination Board),
 2. have at least a professional master's degree examination or a comparable examination or a professional diploma examination,
 3. And are appointed by the Examination Board.
- (2) In courses that are not offered by the Departments of Physics, Chemistry-Biology and Electrical Engineering, the lecturers of the courses shall be authorized examiners.

- (3) All persons as defined above (in Section 1 and 2) are authorized examiners for the master thesis. The Examination Board can permit designated external scientist authorization upon request. The candidate can suggest the examiner. The suggestion is a proposal and not a justification. The examiner for the master thesis are appointed by the chairman of the Examination Committee.
- (4) Assessors with a professional master's degree examination are appointed without a decision of the examination committee. The Examiners' Office appoints a person as assessor for those examinations, where an assessor is envisaged.
- (5) The examiners are independent in their examination activities.
- (6) The Examination Board must ensure that the obligation to examinations is distributed equally to the teachers involved in the training.
- (7) The examiners and assessors are subject to official confidentiality. If they are not in the public sector, they must be obliged to maintain secrecy.

§ 11

Acknowledgement of examinations and degrees

- (1) Acknowledgement of examinations that were successfully completed within courses at state or state-recognized Universities / Academies in Germany or abroad will be acknowledged on request provided that the obtained competences do not differ essentially from the competences being replaced.
- (2) It is the applicant's responsibility to provide the necessary information on the examination that is to be recognized. If, according to the Lisbon Convention, significant differences are identified and demonstrated, the decision of non-recognition must be justified in writing by the Examination Board.
- (3) Decisions on applications within the meaning of section 1 shall be taken within a period of two months.
- (4) Based on the decision of acknowledgement in Section 1 the student will be upon request placed in the appropriate Semester. The ECTS credits earned by acknowledgement are calculated in proportion to the total scope of the ECTS credits acquired in the respective course of studies multiplied by the regular study time in semesters. If the fractional decimal point is less than five, it is rounded down to whole semesters, otherwise rounded up, as a minimum the first semester is categorized.
- (5) When agreements between the Federal Republic of Germany and other states on equivalence in the field of higher education (equivalence agreements) favor foreign students in derogation from section 1, the provisions of the equivalence agreements shall apply.
- (6) Upon request, other knowledge and qualifications may be recognized on the basis of the submitted documents if such knowledge and qualifications are equivalent in content and level to the examinations, which they are intended to replace.
- (7) The grades of the acknowledged exams are used provided that there is a comparable grading system and taken into account the calculation of the total result.
- (8) The Examination Board is responsible for acknowledgements as described in sections 1-7. Representatives will be consulted before decisions upon the equivalence are made.
- (9) § 63 Section 5 HG remain unaffected.
- (10) Applicants who are entitled to begin at a higher semester level, due to their result in the placement examination pursuant to § 49 section 11 HG, will take their Master examination according to these results. The grade of the placement examination is stated on the certificate and is binding for the Examination Board.

§ 12

Withdrawal, failure, fraud, breach of regulations

- (1) Candidates can deregister from an examination at the responsible examination office not later than seven days before the examination date.

- (2) A graded performance is assessed as "not sufficient" (5.0) if a candidate does not appear after prior application for an examination date without valid reasons or she / he withdraws from the examination without valid reasons after beginning the examination.
- (3) If a candidate fails to deregister a plausible reason must be immediately communicated to the Audit Committee in written form. In the event of sickness of the candidate, a medical certificate must be submitted as reason for non-compliance. If the chairman of the Examination Board recognizes the medical certificate, the candidate or the examiner is informed in writing.
- (4) Illness of an examinee and illness of the examinees' child which is primarily in his/her care are regarded as equal with regard to compliance with the deadline for initial registration, repetition of examinations, reasons for the failure of examinations and keeping within given processing times for examinations.
- (5) If a candidate attempts to influence the results of his or her graded performance by deceiving or using unauthorized aids, the relevant graded performance is assessed as "not sufficient" (5.0). A candidate who disrupts conduct of examination may be excluded from the continuation of the examination by the examiner or by the supervisor after being warned. In this case, the examination in question is considered as "not sufficient" (5.0). Reasons for exclusion are put on record. If the candidate is excluded from participating in an examination, she or he may require that this decision is reviewed by the Examination Board. This applies in accordance to the statement of the examiner or supervisor pursuant to Section 1.
- (6) Within 14 days, the candidate may demand that decisions pursuant to section 3 be reviewed by the Examination Board. The candidate must be informed immediately in writing of any delicate decisions with justification. Prior to the decision, the candidate shall have the opportunity to be heard.

§ 13

Family regulations, protective regulations, downtime

- (1) At the request of a candidate, the maternity leave periods, as laid down in the applicable law for the protection of the working mother (MuSchG), must be taken into account accordingly. The periods of maternity protection interrupt any period laid down in these regulations. The duration of maternity leave is not included in the deadlines.
- (2) The periods of parental leave must also be taken into account on request, in accordance with the applicable law on the eligibility and the maternity leave (BEEG). Candidates must inform the Audit Committee at least 4 weeks before the date on which they wish to start their parental leave, for which period or for which periods they wish to benefit from a parental leave.
- (3) On request, periods of absence due to the care of spouses, registered life partners, close relatives or first degree relatives are taken into account. The application must be submitted immediately after the situation occurs.
- (4) Please provide in addition to the request supporting documents required for examination.

§ 14

Compensation for students with disability or chronic illness

If a candidate can make credible that she/he is not able to achieve non-graded performance or test results, either in total or partially, within the given time limits, due to her/his suffering from a chronic illness or a disability in line with § 2 Section 1 SGB IX, the Examination Board grants an extended examination period or the possibility to fulfill the academic achievement in a form suitable to the candidate's needs.

II. Master's examination

§ 15

Scope and type of the master thesis

- (1) Modules are completed by passing one - in rare cases plural - academic and examination achievements. Final module exams can be either in form of academic achievements or individual

test performances. In modules consisting of several module elements combination tests may be provided, which consist of several differently or equally weighted test forms.

- (2) Examinations for lectures are usually written (1 - 2 hour duration) or oral examinations (15 - 45 minutes duration). Examinations for practical courses are usually laboratory books, protocols and / or topical interviews. Alternatively, tests can also be carried out in the following form:
 - a) Oral examination,
 - b) Written examination incl. split into partial examinations,
 - c) Presentation,
 - d) Assignment,
 - e) Practical course,
 - f) Exercise or seminar,
 - g) Master thesis,
 - h) A combination of those listed above under a) to f).

Oral examinations are to be carried out in attendance of an assessor.

- (3) If, in combination tests, which consist of a written or oral examination and a different examination form, the total number of points required to complete the module examination is not acquired, the written exam or oral examination can be repeated up to two times. The evaluation of the test elements is unchanged. The points achieved in the practical or exercise course remain until the decision on passing or failing the final module examination is made. If even after the second repetition, the required number of points have not been acquired to pass the module examination test, this module examination is not passed.
- (4) The test performances provided in the relevant module are given in the respective module descriptions. Percentages in the field " graded performance" or "Study performance" of a single module description indicate the weight of the examination element within the framework of the combination test.
- (5) The scope of the examinations must be given to the students at the beginning of the course, in the first week of lectures, by the responsible person for this module.
- (6) Performances in written or oral examinations, with which the course of studies is completed, and in a repeated examination, in which a failed exam would lead to failing studies as there is no possibility of compensation, shall be assessed by at least two examiners or examiners as defined in § 10. In addition, oral examinations must always be taken by several examiners or by an examiner in the presence of a qualified assessor or a competent supervisor.

§ 16

Scope of the master examination

- (1) The master thesis is to be prepared in a specialized area of nanoscience or nanotechnology, which is supervised by an examiner in the sense of § 10.
- (2) The master thesis may be issued and supervised by any person with the right to qualify for examination within the meaning of § 10, section 3, who is engaged in research and teaching in this field. If the master work is to be carried out in a facility outside the university, the approval of the chairman of the examination committee is required. The candidate must be given the opportunity to make proposals for the topic of the master thesis.
- (3) Upon request, the chairperson of the Examination Board ensures that the candidate promptly receives a topic for a master thesis.
- (4) The master thesis must be started at the latest four weeks after the completion of all other examinations of the master degree. The beginning is to be communicated to the Examination Office in writing on a form issued by the Examination Office.
- (5) The master work may only be started when all modules of the first three semesters have been successfully completed according to the course plan.
- (6) The time to carry out the master thesis is six months. The topic and the assignment must be such that the master thesis can be completed within the stipulated deadline. The topic can only be returned once and only within the first two months. The Examination Board may, in exceptional

cases, extend the time for the master thesis by up to two months on justified request. The master thesis should not exceed 70 pages.

- (7) In case of illness of the candidate or in cases which are not the responsibility of the candidate, the examination committee may extend the period of the master thesis on request. The application must be submitted to the Examination Board before the end of the six-month period. Applications must be accompanied by supporting documents.
- (8) The thesis must include a title page, a table of contents, a source and bibliography. Passages of the thesis that are related to other works either by relating to wording or content, must in all cases be indicated by providing the sources. The candidate adds to the work a written assurance that she / he has written the work independently and has not used any sources other than the specified sources and tools, as well as made citations. The statement covers in particular tables, sketches, drawings and pictorial representations.

§ 17

Acceptance and evaluation of the master thesis

- (1) The master thesis has to be handed over to the Examination Board in triplicate. The date of submission must be documented. If the master thesis is not delivered in due time, it is rated as "not sufficient" (5.0). In addition, an electronic version of the master thesis (without password protection) must be handed over to a suitable storage medium for plagiarism testing.
- (2) The master thesis is assessed and evaluated by two examiners, of which one is affiliated to one of the departments: Chemistry-Biology, Physics or Electrical Engineering. The examiner who supervised the thesis should be one of the evaluators. The second evaluator will be nominated by the Examination Board. The individual assessment shall be carried out in accordance with § 18 Sentence 1 and shall be justified in writing. The grade of the master thesis is formed from the arithmetic average of the two grades. However, if the difference between the two grades is more than 2.0, a third examiner shall be appointed by the chairperson of the examination board. In this case, the grade of the master's work results from the arithmetic mean of the two better individual evaluations. If one of the two examiners grades the master thesis as "not sufficient", a third examiner named by the examination board will additionally assess the work. If, in this case, at least two reviewers evaluate the master thesis with at least the grade "sufficient" (4.0), the insufficient grade is ignored and the result is the arithmetic mean of the other two grades. Otherwise, the master thesis is not passed. The evaluation of the master's thesis is to be communicated to the candidate within a maximum of eight weeks. The assessment of the master thesis by the examiners must be communicated to the Examination Office no later than four weeks after the submission of the master thesis.

§ 18

Evaluation of graded performance, calculation of grade

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

1 (very good):	an excellent achievement
2 (good):	an achievement, that is considerably higher than the average requirements
3 (satisfactory):	an achievement, that fulfils the average requirements
4 (sufficient):	an achievement, despite its deficiencies still satisfies the requirements
5 (not sufficient):	an achievement, that due to significant shortcomings, no longer satisfies requirements

For the differentiated assessment of the examination results individual grades can be increased or decreased by 0.3 to intermediate values; grades 0.7, 4.3, 4.7 and 5.3 are excluded. Up to grade 4, the associated performance points are awarded.

- (2) In the event of non-coincident assessment by two examiners, the grade shall be formed from the

arithmetic mean of the two assessments; § 17 (2) will remain unaffected.

- (3) Academic achievements are evaluated either as “passed“ or “failed“
- (4) In combined examinations, the evaluation is made in accordance to weighting of the individual test elements as provided in the module hand book.
- (5) The overall grade of the master degree is calculated as the average value of the individual grades, taking into account the weights of the tested modules. The weight of the individual grade depends on the number of assigned credit points (CP). The calculation takes only the first decimal after the comma; additional ones are deleted without rounding.
- (6) The overall grade of the master degree is specified as follows
 - 1.0 – 1.5 = very good;
 - 1.6 – 2.5 = good;
 - 2.6 – 3.5 = satisfactory;
 - 3.6 – 4.0 = sufficient.
- (7) Academic and graded performance count as a passed, when a grade 4.0 or better has been given or in case no grade was given, they were determined as “passed”.
- (8) The master degree is accomplished when all the course-related examinations as well as the grade of the master thesis are at least "sufficient" (4.0).

§ 19

Repeating academic and graded performance

- (1) Examinations in accordance to § 15, with exception of the master thesis, that are as stated in § 18 failed or in regard to § 12 Sentence 2 or 5 are considered as not passed, can be repeated twice. Whereas final module examinations which are taken as a combined exam and contain a practical course or exercise course (§ 15 Sentence 3) can only be repeated once.
 - (2) Non-graded performance can be repeated without restriction.
 - (3) If the right to examination in one of the optional compulsory subjects is revoked, the candidate can choose another compulsory elective module.
 - (4) If an examination entitlement expires in a compulsory module, the candidate may apply to the examination committee within four weeks for an oral examination in the module for which the examination qualification has expired, provided that following conditions are fulfilled: at the end of the second examination period, (§7, section 3), of semesters 2, 4, 6, 8 and 9 the candidate achieved for each a semester-specific minimum number of credit points. The examination committee decides on the application. If there is evidence that the deadline cannot be exceeded by the candidate, in particular in case of illness or malfunction of the technical equipment essential for the master thesis, and in the cases referring to § 64, 3a HG, a reasonable deadline will be given. The minimum number of credit points that must be provided by the end of each semester is as follows:

End of 1. semester:	15 credit points
End of 2. semester:	35 credit points
End of 3. semester:	55 credit points
End of 4. semester:	70 credit points
End of 5. semester:	84 credit points
End of 6. semester:	120 credit points
- If the application is accepted, the oral examination shall take place with a minimum duration of 45 minutes in the presence of the chairman of the Examination Board. The grade "sufficient" (4.0) is given when the examination is carried out. It is not possible to repeat this verification.
- (5) The master thesis can be repeated immediately if the assessment is not sufficient (5.0). A second repetition is not possible.
 - (6) The candidate may propose another examiner for the repetition section 4.

- (7) In addition, one single test performances from the entire master degree can be repeated independently of the date of the first exam for improvement of the grade. This examination must take place in the fourth semester and requires a separate written application to the Examination Office. The master thesis is excluded from this regulation.

§ 20

Completing or failing the master's program

- (1) The master program is successfully completed when 120 credit points are acknowledged in accordance to the examination regulations.
- (2) The master program is failed if
- a) for a compulsory module, all repetition possibilities pursuant to § 19 have been claimed; or
 - b) examination entitlement has expired (or lost?) and
 1. the candidate has not submitted a request for re-examination;
 2. or the candidate submitted a request for re-examination but this request was not accepted or
 3. the candidate submitted a request for re-examination, this request was accepted, but the re-examination was failed or
 - c) the master thesis grade, taking into account a possible repetition, is less than "sufficient"
- (3) In case that the candidate does not pass the master program, on request a certificate will be issued to her / him when presenting the corresponding certificates as well as the de-registration certificate. This includes the studies and examinations performed and their grades as well as the missing studies and examinations, and shows that the master examination has not been passed.
- (4) The certificate of the failed master degree must contain information on the candidate's statutory rights.

§ 21

Certificate

- (1) A certificate and a transcript of records (ToR) shall be given to the candidate immediately, at the latest within four weeks after the last examination, on the master degree awarded. The certificate contains the topic of the master thesis and its grade as well as the overall grade determined in accordance with § 18 section 6. The transcript of records includes all the test performances in which credits have been earned and the scores obtained. The Transcript of Records provides information on the individual course of studies, namely the chosen professional profile, all the courses and modules attended, as well as all the achievements during the course (including the master thesis) and their assessments. Above all, it contains the grades of the individual modules.
- (2) The certificate is signed by the chairman of the Examination Board. The date of the certificate must indicate the date on which the last examination was performed.

§ 22

Master degree certificate und diploma supplement

- (1) At the same time as the certificate, the candidate is presented with the master degree with the date of the certificate. The award of the master degree is certified according to § 3.
- (2) The master degree is signed by the dean of the faculty and the chairperson of the Examination Board and affixed with the faculty's seal.
- (3) A diploma supplement will be handed out with the certificate of completion of the master degree. The diploma supplement contains information on the course of studies, its prerequisites and content, the grading system and the type of degree. The diploma supplement is supple-

mented by information about the university and the German study system. The diploma supplement certifies the ECTS grade of the overall grade according to the following relative ECTS assessment scale:

- A = the best 10%
- B = the next 25%
- C = the next 30%
- D = the next 25%
- E = the next 10%

For the calculation of the relevant ECTS grade, all final grades of the graduates of the "Nanoscience and Nanotechnology (Master of Science)" master program, who successfully completed their studies during the last 24 months - from the month of the certificate exhibition -, are taken into account. The certificate of the ECTS rank is issued only with a group size of at least 30 graduates.

§ 23

Invalidity of the master examination, revocation of title "Master of Science"

- (1) If a student cheated during the course of an examination and this fact is not discovered until after the certificate has been handed over, the Examining Board can subsequently correct the grades for those examinations for which the deception has been demonstrated and either declare the examination in whole or in part as not successful.
- (2) If the prerequisites for admission to an examination were not met, and this was not done deliberately by the student, and this circumstance was uncovered by the time the certificate was handed out, this shortcoming is remedied by passing the examination. If the student has deliberately wrongfully obtained the admission, the examination committee decides on the legal consequences in accordance with the Administrative Procedures of Law for the State of North Rhine Westphalia.
- (3) Before a decision is made, the person concerned will be given opportunity to comment.
- (4) The incorrect certificate must be handed back and, if necessary, a new one shall be issued. A decision pursuant to §1 and § 2 section 2 shall be excluded after a period of five years after the issuing of the test certificate. The period between the initiation and termination of an administrative procedure for the examination of the withdrawal of the degree is not included in the five-year period under sentence 2.
- (5) If the entire examination is declared failed, leads to revocation of the degree "Master of Science".

§ 24

Inspection of examination files

After examination and upon request to the Examination Board a candidate is entitled to look into the examination protocol or with written examinations such as the master thesis, inspect the graded performance and relevant report.

§ 25

Entry into force and publication

The examination regulations will enter into force on the day following their publication and apply to all students who have enrolled at the University of Siegen from the winter semester 2017/2018 in the master program Nanoscience and Nanotechnology. It is published in the "Official Announcements of the University of Siegen".

Completed on the basis of the decisions of the Council of Faculty IV - Faculty of Science and Technology - of 14 December 2016 and 18 January 2017.

Siegen, 19. April 2017

The Rector

(University Professor Dr. Holger Burckhart)

Annex 1: Study schedule for the master program „Nanoscience and Nanotechnology (Master of Science)“

	Basic module for B. Sc. Physics		Basic module for B. Sc. Chemistry		Basic module for B. Sc. Engineering		
	1. semester	General chemistry (incl. Lab course)	9CP	Quantum theory	6CP	Quantum theory	6CP
Advanced solid state physics		6CP	Solid state physics incl. adv. math. methods	9CP	Solid state physics	6CP	
Nanoelectronic devices		6CP	Nanoelectronic devices	6CP	General chemistry (incl. Lab course)	9CP	
Nano-research course (Seminar + elective module OR Research Lab)					9CP		
Nanochemistry						6CP	
2. semester	Photonic devices						6CP
	Nanotechnology						6CP
	Lab course “Micro and Nanotechnology” (Processing: Litho, PVD, CVD, Etching, FIB,)						6CP
	Lab course “Nanosynthesis, nanosafety and nanoanalytics” (Nanostructure synthesis + Analytics: PL, Raman, X-Ray, Light Scattering, REM, TEM,)						6CP
	(free choice from course catalog)						6CP
3. semester	(free choice from course catalog)						6CP
	(free choice from course catalog)						6CP
	Research lab course						12CP
	Master thesis						30CP
4. semester							

	Mandatory course
	Free choice from course catalogue
	Mandatory with free choice of research field