The following translation of the Examination Regulation for the Master Distance Study Program “Nanotechnology” is provided here only to give students a better understanding of the contents of the original German document. Only the German version is legally binding.

Department of Physics
Examination Regulation for the Continuing Education Distance Study Master’s Degree Program “Nanotechnology” at the University of Kaiserslautern dated July 16, 2012
(Government Gazette of Rhineland Palatinate Nr. 30 dated August 20, 2012, p. 1634)

Amended by Regulation dated December 18, 2012
(Government Gazette of Rhineland Palatinate Nr. 4 dated February 11, 2013, p 299)

In accordance with section 7 para. 2 no. 2 and section 86 para. 2 item 1 no. 3 of the Federal Higher Education Act dated November 19, 2010 (GVBl. p. 463), as amended by law (GVBl. p. 47) BS 223-41 dated March 9, 2011, the Faculty Council of the Department of Physics at the University of Kaiserslautern enacts the following examination policy for the Distance Study Master’s Degree Program "Nanotechnology" effective on June 29, 2012. This policy was approved by the President of the University of Kaiserslautern in a letter dated July 12, 2012 and is hereby announced with this publication.

Section 3, para. 1 of the German Constitution provides for gender equality. All personal and functional definitions in this regulation apply equally to men and women.

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Part I: General

Sec. 1 Applicability, Responsibilities

(1) This examination policy governs the examination requirements and procedures for the continuing education distance study master's degree program "Nanotechnology."

(2) The board of examiners for the "Nanotechnology" program is the decision making authority regarding the degree requirements for the "Nanotechnology" post-graduate program.

Sec. 2 Admission requirements, complementary occupations

(1) The continuing education correspondence program in "Nanotechnology" at the University of Kaiserslautern is designed for university graduates who have at least one year of related job experience subsequent to earning an undergrad degree in one of the natural or engineering sciences or medicine. All previous job experience up to the application deadline should be provided along with the respective documentation because in terms of course aims, content, didactics, and organization, the program is designed for working persons. Job experience acquired after obtaining the undergrad degree may also include appropriate periods of time spent working for a PhD program.

(2) Applications are also accepted from those who do not have an undergrad degree. These applicants must have a university entrance qualification according to Section 65 para. 1 or 2 of the German Higher Education Act (HochSchG), at least three years of experience in a related occupation subsequent to acquiring the university entrance qualification, and a passing grade on the aptitude assessment as per section 2a of this examination regulation.

(3) The requirements for university entrance qualification as per section 65 para. 1 Higher Education Act have been met if the applicant has successfully completed college preparatory classes and earned a diploma from a secondary school (Hochschulreife).
A subject-specific university entrance qualification (relative to professional training) as per section 65 para. 2 Higher Education Act is when the applicant has completed qualifying occupational training and has subsequently acquired at least two years of professional or equivalent job experience. Further qualification as a master craftsman, or an equivalent certification, is similarly recognized as a university entrance qualification.

(4) As part of the application for admission to the correspondence course "Nanotechnology," applicants must make a written declaration stating that an appropriate institution has agreed to enable the performance of a master's thesis. The appropriate documentation from the facilitating institution is to be provided to the Student Administration Office before the end of the fourth semester. If no documentation is received from the facilitating institution by this time, the student must contact the Distance & Independent Studies Center (DISC). This office will then examine the possibility, on the basis of exceptional circumstances, to complete the master's thesis within the University of Kaiserslautern.

(5) The program is conducted in English. A declaration of English language proficiency has to be presented at the time of registration and can be acquired by:

1. Completion of an English language course during undergrad studies
2. Common European Framework of Reference for Languages: C1
3. Cambridge Certificate of Proficiency (CPE): Grade C
4. IELTS: 6.0
5. TOEFL Computer based test: 213
6. TOEFL Paper: 550

or an equivalent qualification, confirmed by declaration (see Appendix 2).

(6) If the supporting documentation for admission to the correspondence studies reflects less than 210 ECTS credits (European Credit Transfer and Accumulation System), the student must provide proof of a relevant employment history in order to successfully complete the distance study program. If the graduation transcript does not show any credit points (ECTS), the standard of 210 credit points (ECTS) is established by documenting an attendance period of at least 7 semesters. The relevancy requirement applies to the "Nanotechnology" master's program. The complementary work experience must be documented prior to the end of the normal study period. As per section 2a, 180 ECTS credits are awarded after successfully completing the aptitude test.

(7) One year of recognized job experience, which must have been performed after obtaining an undergrad degree, counts as 30 ECTS credits for the student. A maximum of 30 ECTS credits can be recognized. Overall, the sum of the ECTS credits from the graduation transcript and the recognized job experience must total at least 210 ECTS credits.

(8) The recognized job experience and the earned ECTS credits will be shown in the respective master's degree transcript. This is one of the prerequisites for successful completion of the distance study program. Where applicable, the recognized ECTS credits are counted toward the mandatory portion of the distance study program.
Sec. 2a Aptitude Assessment

(1) An aptitude assessment is performed to determine if the occupational training and subject matter knowledge of the applicant are equivalent to a completed undergrad degree. The aptitude test is an assessment of whether the applicant has acquired the required subject matter expertise to enable successful participation in the program.

(2) The aptitude assessment consists of two parts: the application portfolio (as per sec. 2a para. 3) and the written exam (as per sec. 2a para. 5).

(3) Aptitude testing must be informally requested at the student administration office. Requests must be received by that office prior to the scheduled deadline for enrollment applications. The deadline for requesting an aptitude assessment is published on the homepage of the Distance & Independent Studies Center (DISC). The deadline for student registration is, in any case, always January 31 each year.

The application portfolio must include the following documentation to establish the applicant's aptitude and ability to participate in the "Nanotechnology" distance study master's program:

A Letter of Motivation describing their educational goals and not exceeding a maximum of 3000 characters. The Letter of Motivation should include a detailed description of the applicant's previous development of expertise and should be supported by the associated documentation:

- Curriculum vitae,
- Projects/area of employment,
- School and other training certificates
- Documentation of exam results, performed in the context of continuing education programs,
- Work performance evaluations or other experience related references.

(4) An application for aptitude testing will only be rejected for one of the following reasons:

1. Missing or incomplete documentation as required per para. 3,
2. Work experience not applicable to the selected program (as per sec. 2 para. 2),
3. Requirements of section 2 of this regulation not satisfied.

The decision is communicated to the applicant in writing by the student administration office. If approved, an invitation to participate in the written part of the assessment will be sent.

(5) The written part of the aptitude assessment consists of a test, which is to be administered on a date determined by the student administration office. The test duration must be at least one hour, but not longer than two hours. The responsible examiner decides what materials are allowed into the examination room; applicants will be informed about this decision together with the examination date.

(6) The written part of the aptitude assessment is corrected and evaluated by an examiner to be named by the examination board. The evaluation process is to be
completed within four weeks. Those who have reached at least 80% of the maximum score have passed the aptitude assessment (see Appendix 3).

The results of the written exam will be sent to the applicant in writing by the student administration office or the Distance & Independent Studies Center.

(7) The period of validity and opportunities for repetition are governed by the following:

1. If assessed as qualified to enter the postgraduate "Nanotechnology" distance study program, the authorization is valid to start courses in any one of the next three application periods.
2. Applicants who fail the assessment must wait for the next regularly scheduled aptitude assessment to try again. A failed aptitude assessment can only be repeated twice. In case of a make-up exam, the entire aptitude assessment has to be repeated.
3. Aptitude tests completed at another university are not a suitable substitute for the aptitude test prescribed by this regulation.

(8) A certificate of successful completion of the aptitude assessment is signed by the president of the examination board.

Sec. 3 Aim of the course and purpose of the examination

(1) The aim of the master's degree program "Nanotechnology" is to teach a comprehensive theoretical and practical basis in the field of nanotechnology.

(2) The master's exam in "Nanotechnology" represents the culmination of an advanced academic and professional qualification program at the University of Kaiserslautern in the field of nanotechnology. The exam determines if the applicant has acquired extensive knowledge in the field of nanotechnology and an understanding of the relationships within this subject.

Sec. 4 Academic degree

Applicants who successfully complete the requirements of the master's exam are awarded the academic title "Master of Science" (abbreviated M.Sc.) degree by the Department of Physics.

Sec. 5 Duration, scope and structure of program

(1) The standard period of study is 6 semesters.

(2) The total course time required for successful completion of the master's program comprises 86 semester hours per week (SWS). This corresponds to a total scope of effort that amounts to a minimum of 90 credit points (70 credit points for course work plus 20 credit points for the master's thesis), as defined in the European Credit Transfer and Accumulation System (ECTS). The effort per credit hour is 25 hours.

(3) The "Nanotechnology" correspondence course has graded and ungraded course requirements. The graded work includes tests, oral exams, and the master's
thesis. The ungraded course requirements consist of the written homework submissions and the compulsory attendance at on-campus sessions.

(4) Credit points are awarded for successfully completed course and examination results according to the ECTS. They correspond to the time and effort generally required for the correspondence course assignments or attendance at the compulsory sessions, the preparation and correction of the teaching exercises, and completing the graded and ungraded requirements. The credit points are awarded upon completion of the course requirements, independent of the grades earned.

The course is designed with a modular structure (see appendix 1). The individual modules include subject-related course content.

**Sec. 6 Needs of students with impairments, disability compensation**

Students with disabilities are allowed accommodation for their impairment in the form of additional aid and assistance, to the extent required to ensure fairness. This applies to impediments that exist unrelated to the qualifications being tested that could negatively influence the examination results. Any prolonged or physical disability, as well as any dispositions and peculiarities rooted in the character of the applicant; to the extent that these affect the proficiencies being tested must be precluded. Measures taken to promote equal opportunity may include, for example, an appropriate extension to the period of testing or the administration of the exam in some other format. The disability must be credible and substantiated. The institution can require substantiation by medical certificate. The request for special accommodation must be submitted in writing to the examination board before registering to take the examination.

**Sec. 7 Credits for periods of study, graded and non-graded work**

(1) Credits for periods of study, graded, and non-graded work in the same degree program at a university or technical university in Germany are recognized without an equivalency assessment, to the extent that the course is accredited and there are no major differences in the modules regarding the skills taught. Credit for some parts of the master’s exam may be refused, if credit has already been given for more than half of the graded and ungraded work or the master’s thesis.

(2) Periods of study, graded and non-graded work for other courses in the same degree program but not yet accredited are recognized to the extent equivalence of content is determined by the examination board. A determination of equivalence is made when periods of study, graded work, and non-graded work substantially have the same standards, content, and scope as the corresponding course at the University of Kaiserslautern. There are no schematic comparisons used, but rather an overall consideration and holistic assessment is performed. In recognizing periods of study, graded, and non-graded work performed outside of Germany, the agreements concerning equivalence as approved by the Standing Conference of the Ministers of Education and Cultural Affairs (KMK) and German Rectors’ Conference as well as partnership agreements made between institutes of higher learning are taken into consideration.

(3) Paragraphs 1 and 2 apply for periods of study, graded and non-graded work performed for state-approved correspondence courses, for multimedia-supported
graded and non-graded work as well as for graded and non-graded work from "early admissions" students; paragraph 2 applies also for periods of study, graded, and non-graded work performed at other educational institutions, especially, at state, or state-approved, professional academies, engineering and applied engineering schools, and officer training schools in the former East Germany.

(4) Partial credit can be awarded for periods of study, graded and non-graded work that do not fully meet the requirements. In such cases, the criteria for determining what, in what format, within what period, and with what make-up options can be accredited (requirements for accreditation) is set by the examination board.

(5) Where the provisions of paragraphs 1 to 4 are satisfied, a legitimate claim to accreditation exists. The accreditation for periods of study, graded and non-graded work performed in Germany is completed ex officio. The accreditation process for the master's exam is initiated by the DISC upon request of the applicant. The applicant is required to provide documentation to the student administration office that shows the grades, the credit points and the times for all graded work completed for another program or at another university. These documents must clearly indicate any failed or repeated modules and exam relevant course work. The documents must be issued by the university where the graded exams were taken. The determination of accreditation is made by the examination board, which has the right to obtain an independent opinion from a subject-matter expert.

(6) The accreditation process considers all graded and non-graded work - both passed and failed - for which there is a corresponding requirement in the "Nanotechnology" master's exam at the University of Kaiserslautern. Graded or ungraded work previously attempted and failed elsewhere and later retaken for the corresponding master's exam in "Nanotechnology" at the University of Kaiserslautern, will be considered as the first make-up exam. If relevant graded or ungraded requirements are retested and failed, the application for admission to the "Nanotechnology" master's exam at the University of Kaiserslautern will be processed as an application for a second repetition of the exam.

(7) Exam failures or unsatisfactory completion of non-graded requirements in the "Nanotechnology" degree program at another university count against the authorized number of make-up exams. Further, exam failures or unsatisfactory completion of non-graded requirements in the same modules or subjects in another degree program at another university also count as failures (to the extent the requirements for a passing grade were the same or lower).

(8) No credit is awarded for those courses used to authorize the student for admission to the degree program in Nanotechnology.

Part II: Examiners and Examination Board

Sec. 8 Examination board and the office of student affairs (student administration office)

(1) Examination matters are handled by a Board of Examiners appointed by the faculty council of the Physics Department. Administrative support for the
examination board is provided by the student administration office of the University.

(2) The examination board is composed of seven members. The president, the vice president, and the other members are appointed by the faculty council in the respective ratio 4:1:1:1:1:1 from a pool of teachers, research assistants, administrative staff, and students. The president and the vice president must be professors tenured for life. In case of a tie vote, the president casts the deciding vote. Section 25 para. 5 Higher Education Act is used for voting issues concerning graded and related ungraded work. The term of office for the student member is one year while the appointment period of the other members is three years and subject to an indefinite number of extensions.

(3) The duty of the examination board is to insure adherence to the provisions of the examination regulation.

(4) The president of the examination board ensures that graded and ungraded work can be achieved within the allocated time. In this regard, the candidate must be informed in a timely manner regarding the type and number of academic requirements to be achieved in the context of a course module as well as regarding the completion deadlines to be met and the dates and times for issue and submission of the master's thesis. The candidates will also be informed of the respective make-up dates for each graded and ungraded requirement.

(5) The president of the examination board regularly provides reports to the faculty council of the Department of Physics covering the topics of exams, the periods of study, the distribution of subject-specific and overall grades, and makes recommendations for changes to the examination regulation.

(6) The president of the examination board regularly provides reports to the examination board regarding approved admissions and transcript records.

(7) The members of the examination board have the right to attend performance assessments and the module exams.

(8) The meetings of the examination board are not open to the public. A representative of the student administration office can participate in meetings of the examination board in a consultative role. The members of the examination board, the examiners, and the observers have a duty to observe official confidentiality. If not employed as public servants, they shall be bound by the president to observe the confidentiality requirement.

(9) The examination board can delegate exam related tasks to the Student Administration Office and DISC.

Sec. 9 Examiners and monitors

(1) The Master's exam is administered by an examiner appointed by the examination board. The president of the board can appoint the examiner if so authorized by the board.

(2) The examiners are college teachers, professors (up to one year into retirement), habilitated research assistants employed in accordance with section 56, para 1, item 2, Higher Education Act, contract teachers according to section 63, Higher Education Act, as well as teaching staff for special subjects according to section
58, Higher Education Act. The examiners may also be honorary professors and experienced professionals in private practice. The latter can be appointed in accordance with section 25, para. 4, item 2, Higher Education Act. According to sections 58 and 63 of the Higher Education Act, an examiner can be appointed for an exam only if teaching at the university level in the subject to be tested at present or within the past four semesters, or if able to present proof of relevant professional experience.

(3) The examiner prepares the exam questions, administers the exams, and records the grades.

(4) The president of the examination board ensures that the candidates are given the names of the examiners in a timely manner.

(5) Under exceptional circumstances, the examination board can delegate the appointment of exam monitors to the examiner. Only those persons with the corresponding master's degree or Diplom or equivalent examination can be appointed as a monitor. The duties of the monitor can include keeping records of an oral examination, supervision of a written exam, and preliminary correction of written exam papers. In cases of disrupting an exam period, they are authorized to exclude candidates from completing the exam.

**Part III: Master's Examination**

**Sec. 10 Examination Modes**

(1) The module examinations are used to determine whether the candidate has mastered the major relationships of the content and methods presented in the course and acquired the ability to independently put these skills and knowledge into practice.

(2) The testing objectives focus on the course content. The knowledge gained from previous classes is only tested to the extent required by the examination goals specified in item (1).

(3) The graded work for a course module takes the form of seven, supervised written tests.

(4) Oral exams are administered on an individual basis in the presence of another subject matter expert. Before determining a final grade, the evaluator consults with the monitor. This discussion takes place in private, not in the presence of the candidate. The oral examinations for every subject normally last 30 minutes for every candidate.

(5) The important topics and results of the oral exam are recorded in writing, to be signed and dated by the examiner. The start and end times of the exam are also recorded.

(6) The students enrolled in the "Nanotechnology" program are authorized to attend every oral exam on request, unless the candidate being tested objects. The evaluator can grant the request to attend as a silent observer. The request must arrive at the student administration office not later than 14 days before the scheduled date of the exam. A candidate registered for the same exam on the same date is excluded. On request, the central equal opportunity representative
or the equal opportunity representative of the Physics Department may attend the oral exams.

(7) A written notification of the grade is sent to the candidate after completion of the respective graded exam. The candidate can request to see the corrected exam or the recorded notes of an oral exam within one year of the notification of the final grade.

**Sec. 11 Participation at on-campus sessions**

(1) Attendance is required at some sessions in the correspondence program. Required participation in the on-campus sessions conveys in depth knowledge to students, which provides them with the skills to be able to recognize and solve practical problems.

(2) The correspondence program has a total of five compulsory sessions. The students will be informed of the schedule and content in writing at the start of each semester.

(3) Attendance at the respective sessions requires written registration to be accomplished within the deadline set by the Distance & Independent Studies Center.

**Sec. 12 Testing**

(1) The tests are intended to allow candidates to demonstrate their mastery of the subject matter being tested, i.e., to provide an opportunity for them to recognize the special issues and discuss the relationships in their subject area.

(2) An examination normally lasts at least 90 minutes, though never more than 180 minutes.

(3) Decisions concerning reference and other supplemental materials are up to the responsible evaluator; the candidates will be informed about such matters in connection with the announcement of the exam date. The information is provided in written form by the Distance & Independent Studies Center (DISC).

(4) Registration for the respective test requires a written form to be submitted to the Distance & Independent Studies Center within the announced registration period. The required registration forms are sent to the candidate automatically in a timely manner by the DISC. The DISC retains the right to conduct online registration for the on-campus sessions and tests. In this case, the identification of the individual student is achieved through the registration and login procedure, which precedes the online registration form.

(5) All tests are corrected and graded by an evaluator appointed by the examination board. The evaluation process should not exceed six weeks.

(6) Students having a permanent residence in a foreign country may provide justification in a request to the examination board for permission to take the test at an external location. The examination board sets the required conditions for such a procedure and informs the candidate.
Sec. 13 Submitting written work

(1) An ungraded written assignment must be completed and submitted for each core subject (NT0001, NT0004, NT0011, NT0014).

(2) An ungraded written assignment must be completed and submitted for one of the three optional elective subjects (NT0005, NT0010, NT0013).

(3) These ungraded written assignments are evaluated and count as course requirements. They must be completed in the same semester corresponding to when the core module or optional elective subject is taken; the deadline for submission is the last day of the semester. To receive an extension of the deadline, send a written request to DISC before the end of the semester. DISC will evaluate the request and notify the requester of the new submission deadline (generally, last day of the next semester). A written assignment received after the deadline has past is assigned the grade of "insufficient."

(4) A student who receives a grade of "insufficient" on an ungraded written assignment either because of a late submission or because of the evaluation result must re-do and resubmit the assignment for the same core module in a future semester. The new exercise will be assigned by the DISC after consultation with the evaluator. There is no limit to the number of make-up attempts to fulfill this core requirement.

(5) Each submitted homework assignment is corrected and evaluated by one of the examiners appointed by the examination board. The evaluation period should not exceed eight weeks.

Sec. 14 Master's Thesis

(1) The master's thesis is a written achievement that demonstrates the candidate's ability to solve a problem in the field of nanotechnology independently according to scientific methods within a prescribed period. The topic, problem definition, and scope of the master's thesis are limited in scope by the supervisor in a way that ensures the schedule and deadlines can be met. The actual work effort involved in preparing the master's thesis earns 20 credit points. Completing the master's thesis is generally accomplished at an institution external to the University of Kaiserslautern (sec. 2 para. 4). The topic of the master's thesis should be related to a subject taught between the second and fifth semesters. The candidate has the opportunity to propose a topic for the master's thesis.

(2) The approval of the candidate's thesis topic by the supervisor is reviewed by the examination board. The date of approval/issuance is placed on record at the student administration office. Work on the master's thesis may only begin after the candidate has achieved the following minimum results:

1. Proof of successful completion of graded and ungraded work performed in the first two semesters.
2. Proof of participation in two on-campus sessions the current semester of the correspondence studies program in addition to proof of two passing exam grades from all of the achievements in the third to fifth semesters.

(3) Any college level teacher engaged in teaching or research activities and other persons according to section 9, para. 2 who are involved in the correspondence course in "Nanotechnology" can serve as a supervisor for the master's thesis. If,
in exceptional circumstances, the master's thesis is being completed within the University of Kaiserslautern, the approval of the president of the examination board is required. An appropriate request clearly stating the topic must be submitted to the DISC.

4) The topic of the master's thesis is issued/approved by the examination board on request by the candidate. The required request forms are sent to the candidates according to schedule at the start of Semester 5.

5) If through no fault of their own, a candidate is not able to provide the required documentation, the examination board may make an exception to allow some other form of proof to be submitted.

6) The approval of a candidate to submit a master's thesis is granted by the examination board. If such approval is denied, the candidate will be notified in writing by student administration office. The examination board can deny approval if one of the following applies:
   1. There is a violation of a provision of this examination regulation,
   2. The candidate has not met the prerequisites listed in this section,
   3. The candidate has lost eligibility due to graded and ungraded work or comparable results in another program at some other university or equivalent institution, or the candidate is already undergoing the examination process in a comparable program at another university or equivalent institution.

7) The master's thesis is generally to be completed during the sixth semester. After checking and confirmation of the topic by the examination board, the candidate is notified in writing by the student administration office of the approval/issuance of the master's thesis topic as well as the due date for submission. The date of issuance is placed on record.

8) The time from issuance of the topic to the date of submission of the thesis (preparation time) is six months. In individual cases, if a request is justified, the examination board may grant an exception and extend the time allowed to complete the thesis by a maximum of three months. The request for extension must be received by the student administration office not later than six weeks prior to the end of the preparation time (date postmarked).

9) An assigned topic can be rejected only one time and then only within the first two months of the time allowed for completion of the thesis. If the topic is returned on time, a new topic must be registered within four weeks. The 6-month time allowed for completion begins with the approval of the second topic.

10) When submitting the master's thesis, the candidate must affirm in writing that he or she is the sole author of the work and that no sources or auxiliary materials have been used other than those stated and that no identical or similar version of the work was used as a part of a previous graded work.

11) Two copies of the printed and bound master's thesis must be submitted on time together with an additional copy in electronic format (PDF) to the student administration office, where the submission date and time is recorded on the thesis paper. The paper is then forwarded to the supervisor and the second reviewer for evaluation. If a thesis paper is not submitted on time, the highest possible evaluation it can receive is "insufficient" (5.0). The evaluation period shall not exceed eight weeks.
(12) If a master's thesis is evaluated as "insufficient" or "failed" a new topic can be issued and it can be resubmitted one time. The new topic of the master's thesis must be registered within six weeks of the failure notice. If this deadline is missed, the failing grade on the master's thesis will be recorded as final. A return of the topic within the period of time stipulated in section 9 is only permissible if the candidate did not choose this option when writing the first master's thesis. The master's thesis can only be rewritten one time.

(13) The master's thesis is approved, supervised, and evaluated by a university teacher or other person authorized according to section 9 to administer examinations. Furthermore, the master's thesis is evaluated by a second reviewer. One of the evaluators must be a teacher in the Physics Department. The overall grade is determined by the arithmetic average of the two grades. In the event one of the evaluators awards the master's thesis a grade lower than 4.0 and the other evaluator awards at least a grade of "sufficient," a third examiner shall be appointed by the examination board to decide the final assessment of the master's thesis, taking into account the previous two assessments.

(14) The master's thesis shall be considered passed if it receives a minimum grade of 4.0.

Sec. 15 Master's Examination

(1) The master's degree examination is the final step towards achieving the professional qualification that comes with the successful completion of the Continuing Education Distance Study Degree Program "Nanotechnology" at the University of Kaiserslautern.

(2) The aim of the master's degree examination is to certify that the candidate has acquired comprehensive knowledge in the field of nanotechnology as well as in an optional elective subject and understands the interrelationships.

(3) The master's degree examination includes graded and ungraded results (see appendix 1) in addition to the graded master's thesis. The method of performance assessment and the credit points are specified in appendix 1.

(4) Course work is ungraded. The conditions for successful completion of ungraded requirements are determined by the examiner or – with priority – the examination board.

(5) The master's degree examination is passed when all graded and ungraded course requirements and the master's thesis have been successfully completed.

Part IV: Evaluation of examination results

Sec. 16 Registering for exams, admissions

(1) Applications for admission to each examination (registration) are made in writing and submitted to DISC within the registration deadline set by the examination board. In deciding whether or not the submission deadline has been met, the date of the postmark is decisive. In individual cases, the examination board can grant an exception to this rule.
(2) The application for admission to an examination (if it is not already on file at the student administration office) must be accompanied by a statement explaining if and how many times, the candidate has already attempted and failed to pass one or more exams in a "Nanotechnology" program at a German university or equivalent exams in some other subject; if the candidate has lost eligibility in a "Nanotechnology" program at another university, or if the candidate is currently involved in ongoing exam proceedings; in case exam results were insufficient or demanded a make-up exam, the statement should be accompanied by the required confirmations.

(3) If through no fault of their own, a candidate is not able to provide required documentation, the examination board may make an exception and allow some other form of proof to be presented.

(4) The examination board makes its admissions decisions based on the documents submitted.

(5) Candidates authorized to take an exam will be notified accordingly with reference to section 18, para. 4. Candidates who are denied admission will receive a written notification of this fact signed by the president of the examination board.

Sec. 17 Evaluation of examination results

(1) The following grades are used for the evaluation of exam results and the master's thesis:

   1 = Excellent
     = an outstanding result;

   2 = Good
     = a result that is well above average requirements;

   3 = Satisfactory
     = a result that meets average requirements;

   4 = Sufficient
     = a result that meets requirements despite some shortcomings;

   5 = Insufficient
     = a result that does not meet the minimum requirements due to major shortcomings.

To differentiate among performance evaluations, intermediate grades can be assigned by lowering or raising the grade by 0.3; however, a grade of 0.7 as well as 4.3, 4.7, or 5.3 are therefore precluded.
(2) If a candidate receives a grade lower than a 4.0, it is considered as a failed examination. In this and in other cases where the result is insufficient, the candidate will be notified by the student administration office in writing. The notice will include information about appeals and legal remedies.

(3) To determine the overall grade of the final master's exam, the arithmetical average is calculated using grades weighted with the ECTS points for the respective module.

Only the first decimal after the decimal point is used for grading; all other places are omitted without rounding. Consequently, the overall grades are:

If the average is between 1.1 and 1.5 (inclusive): Very good
If the average is between 1.5 to 2.5 (inclusive): Good
If the average is between 2.5 and 3.5 (inclusive): Satisfactory
If the average is between 3.5 and 4.0 (inclusive): Sufficient.
If the calculated grade average is 1.1 or better, the overall grade is: “Excellent - with exceptional merit.”

(4) If the final examination is failed or counts as failed, the president of the examination board will inform the candidate in writing. The letter of notice in this case will include information regarding appeals and legal remedies. In this case, if requested by the candidate, the student administration office will prepare a written transcript that indicates all examination results and assigned grades.

Sec. 18 Make-up exams, deadlines, extensions, and absences

(1) Any examination that was assigned a grade lower than 4.0 or was recorded as failed may be retaken once. Passing grade exams cannot be retaken.

(2) The initial make-up exam for a failed exam must be taken at the next available examination date.

(3) A second make-up exam must be taken during the exam period following the period in which the first make-up exam was taken and failed.

(4) Over the course of the program, a second make-up exam is possible only for three exams. The eligibility to take an exam is therefore lost if prior to the respective exam four initial make-ups or one second make-up have already been taken and failed. In special circumstances, the faculty council can grant an exception to this rule.

(5) A missed make-up examination counts as having been failed, unless the candidate is not responsible for missing the deadline.

(6) Extensions and absences are not considered when determining the study times that are key to achieving the course requirements or for meeting the deadlines for registration or an examination or a make-up, to the extent they are related to one or more of the following:

1. Participation in an officially recognized university board or committee, a student body, or a student services organization,
2. Illness, disability, or other reason for which the student is not responsible,
3. Pregnancy and child rearing, in this case, at least as far as the right to protection as per the Maternity Protection Act (*Mutterschutzgesetz*) and parental leave and parental allowance legislation,

4. Support or healthcare for a family member,

5. An official, subject-related study abroad program for up to two semesters; this does not apply to study abroad periods that are to be fulfilled as specified in the examination regulation,

6. Unavoidable operational requirements in the context of a parallel vocational integration, career or dual degree program.

It is incumbent on the student to provide evidence.

(7) Submission dates are determined by the date of the postmark.

**Sec. 19 Withdrawal, non-attendance, cheating, infringements, invalidity of master’s degree certificate**

(1) A candidate can withdraw from an examination just once without specifying a reason, provided he or she informs the student administration office, either personally or in writing, not later than one week prior to the scheduled date of the examination. In case of written notification, the postmarked date is decisive. The examination must then be taken at the next available exam date.

(2) If the candidate does not withdraw on time and fails to appear for an exam without having a valid reason or if he or she withdraws after the start of an exam for no good reason, the examination will be assigned a failing grade.

(3) The reasons claimed for the late withdrawal or the failure to appear must be provided in writing to the examination board without delay, and must show credibility. In case of illness, the candidate must present a medical certificate to the student administration office. In cases of doubt, a certificate issued by a physician named by the university may be demanded. The illness of a child for whom the candidate is predominantly the sole provider is deemed equivalent to the illness of the candidate himself/herself. If the examination board accepts the reason, the incident is handled like a proper withdrawal and a new examination date is scheduled.

(4) A candidate must be informed of the reason for any unfavorable decision in writing and without delay. The notice will include information about legal remedies.

(5) If a candidate attempts to influence the result of an examination through deception or through the use of unauthorized materials, the respective exam result will be graded "insufficient" (5.0). A candidate who disrupts the orderly conduct of the exam can be barred by the respective examiner or observer from continuing the exam; in this case, the respective examination result will be graded "insufficient" (5.0). In serious cases, the examination board may bar the candidate from taking future examinations.

(6) If a candidate has cheated during an exam and if this act is only revealed after the exam record has been issued, the examination board can retroactively adjust the grade accordingly for those examinations where the candidate cheated. The examination can be declared, in whole or in part, as "insufficient." In this case, the procedures of paragraph 9 are applicable.
(7) Prior to the final decision, the candidate will have an opportunity to make a statement.

(8) If the prerequisites for admission to an examination were not fulfilled without any intention by the candidate to cheat and, if this fact is only revealed after the record has been issued, then this fault will be rectified by the passing of the examination. If the candidate willfully gained wrongful admission, the examination board shall make a decision in accordance with the Law on Administrative Procedure Applicable in the Land, dated December 23, 1976 (GVBl. p. 308).

(9) An improper exam record as well as perhaps the master’s certificate and the diploma supplement will be withheld and, if necessary, reissued.

**Sec. 20 Record of the final exam, master's degree certificate, diploma supplement**

(1) A transcript documenting a successfully completed master's exam will be issued in the English language without delay, but not later than four weeks, which specifies the grades achieved in all correspondence course modules, the names of the respective examiners, the corresponding number of semester hours per week, the number of ECTS points, and the overall grade. Furthermore, all course sessions and subject areas covered by the distance study degree program will be listed for which a record of successful participation was prepared. On request by the graduate, the time required to complete the master's degree program can be noted in the transcript records. In addition, on request by the graduate, the transcript will reflect the ECTS degree that corresponds to the overall grade as well as the respective ECTS definition in accordance with the applicable assessment scheme of the European Credit Transfer and Accumulation System. The date of the transcript is the date on which the last examination was taken. The transcript is to be signed by the president of the examination board and stamped with the state seal.

(2) The overall grade of the passed final examination is formed from the grades of all exams included in the master's program and the grade of the master's thesis. The overall grade is calculated according to the provisions of section 17 para 3.

(3) In addition to the transcript record of the master's degree examination, the graduate receives a certificate showing the award of the academic degree pursuant to section 4 para. 6 (Master of Science) dated on the same date as the transcript. The certificate is written in English. The Master's Degree Certificate is signed by the Dean of the Department of Physics and the President of the Examination Board and stamped with the state seal.

(4) Additionally, each graduate receives a Diploma Supplement (DS) in English in accordance with the "Diploma Supplement Model" of the European Union/the European Council/UNESCO. The text used to describe the national education system (DS section 8) is the text approved by the Standing Conference of the Ministers of Education and Cultural Affairs in the Federal Republic of Germany (KMK) and the German Rectors Conference (Hochschulrektorenkonferenz) in its currently valid version as provided at: [http://www.hrk.de](http://www.hrk.de) (keyword: "Diploma Supplement").
Sec. 21 Invalidity of the master's examination

(1) If a graduate has cheated on a graded or ungraded assignment and if this act is only revealed after the exam record has been issued, the examination board can retroactively adjust the grade accordingly for those graded and ungraded assignments where the candidate has cheated. The master's exam can be declared, in whole or in part, as "insufficient."

(2) If the prerequisites for admission to the master's examination were not fulfilled without any intention by the candidate to cheat and, if this fact is only revealed after the record has been issued, then this fault is rectified by passing the master's examination. If the candidate willfully gained wrongful admission, the examination board will decide in accordance with the applicable State Law on Administrative Procedure.

(3) Prior to a final decision, the candidate will have an opportunity to make a statement.

(4) An improper graduation transcript and the diploma supplement will be withheld for possible correction and reissue. If the exam is declared "insufficient" on the grounds of cheating, the Master's Degree Certificate must also be withheld along with these documents. Any decision pursuant to paras. 1 and 2 is precluded after a period of five years from the date of the transcript.

Part V: Final Provisions

Sec. 22 Effective date

This regulation shall become effective on the date following its official publication in the government Gazette of Rhineland Palatinate.

Kaiserslautern, dated 16 July 2012

Dean of the Physics Department, University of Kaiserslautern

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Prof. Dr. Michael Fleischhauer
Appendix 1

Performance requirements for the master's exam

An overview of the program modules incl. the semester distribution (Sem), the level of committal (LC), the scope of effort in weekly hours per semester (WHS), the credit hours awarded for satisfactory participation (ECTS), the type of class meeting (CT), and the evaluation method (EM) is provided below:

CM: Core module, OE: Optional elective module, EX: Exam, WR: Written homework requirement, PN: Participation

<table>
<thead>
<tr>
<th>Sem.</th>
<th>Module</th>
<th>LC</th>
<th>WHS / ECTS</th>
<th>CT</th>
<th>EM</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>NT0001: Fundamentals of Quantum Mechanics</td>
<td>CM</td>
<td>6 / 5</td>
<td>Lesson text, Online tutorial</td>
<td>WR</td>
</tr>
<tr>
<td>1</td>
<td>NT0002: Fundamentals of Molecular Biology, Genetics</td>
<td>CM</td>
<td>4 / 5</td>
<td>Lesson text, Online tutorial</td>
<td>EX</td>
</tr>
<tr>
<td>1</td>
<td>NT0003: Solid State Physics</td>
<td>CM</td>
<td>5 / 5</td>
<td>Lesson text, Online tutorial</td>
<td>EX</td>
</tr>
<tr>
<td>1</td>
<td>Required attendance P1 (NT0002, NT0003): Solid State Physics and Molecular Biology</td>
<td>CM</td>
<td>1 / -</td>
<td>Lecture, tutorial</td>
<td>PN</td>
</tr>
<tr>
<td>Semester 1</td>
<td></td>
<td></td>
<td>16 / 15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>NT0004: Technology of MEMS and NEMS</td>
<td>CM</td>
<td>3 / 4</td>
<td>Lesson text, Online tutorial</td>
<td>WR</td>
</tr>
<tr>
<td>2</td>
<td>Required attendance P2 (NT0004): Lab in the Cleanroom</td>
<td>CM</td>
<td>2 / 2</td>
<td>Lecture, Internship</td>
<td>PN</td>
</tr>
<tr>
<td>2</td>
<td>NT0005: Quantum Computing</td>
<td>OE (Physics)</td>
<td>(4 / 5)</td>
<td>Lesson text, Online tutorial</td>
<td>WR</td>
</tr>
<tr>
<td>2</td>
<td>NT0006: Semiconductor Theory and Device Physics</td>
<td>CM</td>
<td>4 / 5</td>
<td>Lesson text, Online tutorial</td>
<td>EX</td>
</tr>
<tr>
<td>Semester 2</td>
<td></td>
<td></td>
<td>9(13) / 11(16)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Required attendance P3 (NT0007): Characterization of Nanostructures (AFM,STM,SEM,EDX)</td>
<td>CM</td>
<td>2 / 2</td>
<td>Lecture, Internship</td>
<td>PN</td>
</tr>
<tr>
<td>3</td>
<td>NT0008: Nanooptics</td>
<td>CM</td>
<td>5 / 6</td>
<td>Lesson text, Online tutorial</td>
<td>EX</td>
</tr>
<tr>
<td>Semester 3</td>
<td>15 / 16</td>
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<td></td>
<td></td>
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<td>-----------</td>
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</tr>
<tr>
<td>4 NT0009: Nanomaterials 1&lt;br&gt;Part 1: Processing Ceramics and Composites&lt;br&gt;Part 2: Physical and Chemical Synthesis of Nanoparticles</td>
<td>CM 7 / 7</td>
<td>Lesson text, Online tutorial</td>
<td>EX</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 NT0010: Nanomaterials 2&lt;br&gt;Part 1: Nanotechnologically Modified Biomaterials;&lt;br&gt;Part 2: Carbon Nanomaterials</td>
<td>OE (Chemistry) (4 / 5)</td>
<td>Lesson text, Online tutorial</td>
<td>WR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 NT0011: Nanomaterials 3&lt;br&gt;Part 1: Self-assembly</td>
<td>CM 2 / 2</td>
<td>Lesson text, Online tutorial</td>
<td>WR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 Required attendance P4 (NT0007): Microarray Technology</td>
<td>CM 2 / 2</td>
<td>Lecture, Internship</td>
<td>PN</td>
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</table>

<table>
<thead>
<tr>
<th>Semester 4</th>
<th>11(15) / 11(16)</th>
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</thead>
<tbody>
<tr>
<td>5 NT0011: Nanomaterials 3&lt;br&gt;Part 2: Computer Simulations and Modeling in Nanotechnology</td>
<td>CM 2 / 3</td>
</tr>
<tr>
<td>5 NT0012: Transport in Nanostructures&lt;br&gt;Part 1: Nanoelectronics&lt;br&gt;Part 2: Nanomagnetism</td>
<td>CM 5 / 5</td>
</tr>
<tr>
<td>5 Required attendance P5 (NT0012): Preparation and Measurement of Graphene Sheets</td>
<td>CM 2 / 2</td>
</tr>
<tr>
<td>5 NT0013: Applications of Nanotechnology&lt;br&gt;Part 1: Molecular Nanosystems&lt;br&gt;Part 2: Nanoparticles as Therapeutic Drug Carrier and Diagnostics</td>
<td>OE (Biology) (4 / 5)</td>
</tr>
<tr>
<td>5 NT0014: Nanotechnology in its Societal Context: Philosophy, Ethics, Regulation</td>
<td>CM 2 / 2</td>
</tr>
</tbody>
</table>

| Semester 5 | 11(15) / 12(17) |
|            |                  |
| 6 Master's thesis as per section 14 | Required 20 / 20 |
Declaration of proficiency in English

I hereby declare that I have sufficient English language skills to participate in the course of study in the English language. I can complete the degree requirements and examinations in English.

I have no formal certification. I acquired my language skills through the following activities or training (e.g. occupation or education):

______________________________________________________________________

______________________________________________________________________

______________________________________________________________________

______________________________________________________________________

Place, Date (Signature)

Please send this declaration no later than 15 July to the following address:

Technische Universität Kaiserslautern
Student Administration Office
Geb. 47/Raum 424
Gottlieb-Daimler Straße
67663 Kaiserslautern, Germany
Appendix 3

Scoring for the evaluation of the written part of the aptitude assessment in accordance with section 2a paragraphs 5 and 6:

<table>
<thead>
<tr>
<th>Score</th>
<th>%</th>
<th>Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>45 - 50</td>
<td>90 - 100</td>
<td>passed</td>
</tr>
<tr>
<td>40 - 44</td>
<td>80 - 89</td>
<td></td>
</tr>
<tr>
<td>35 - 39</td>
<td>70 - 79</td>
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<td>50 - 59</td>
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</tr>
<tr>
<td>20 - 24</td>
<td>40 - 49</td>
<td>not passed</td>
</tr>
<tr>
<td>15 - 19</td>
<td>30 - 39</td>
<td></td>
</tr>
<tr>
<td>10 - 14</td>
<td>20 - 29</td>
<td></td>
</tr>
<tr>
<td>5 - 9</td>
<td>10 - 19</td>
<td></td>
</tr>
<tr>
<td>0 - 4</td>
<td>0 - 9</td>
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</tbody>
</table>