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Content

Study and Examination Regulations for the Master's Degree Study Program at *Hochschule Merseburg*/Merseburg University of Applied Sciences, as dated November 10, 2014

Attachment 1:

Program-specific Regulations for the Master's Degree Study Program of "Mechanical Engineering|Mechatronics|Engineering Physics" at the Department of Engineering and Natural Sciences

Attachment 2:

Module Overview for the Master's Degree Study Program of "Mechanical Engineering|Mechatronics|Engineering Physics" at the Department of Engineering and Natural Sciences

Prof. Dr.-Ing. Jörg Kirbs Rector

Study and examination regulations for Master's Degree Study Programs at *Hochschule Merseburg*/Merseburg University of Applied Sciences

Based on the current terms of Paragraph 13, Section 1 and Par. 67, Sect. 3, No. 8 of the State of Saxony-Anhalt's Higher Education Act (*Hochschulgesetz*, HSG LSA), dated December 14, 2010 and published in the Law Gazette of the State of Saxony-Anhalt [*GVBI. LSA*], p. 600, Merseburg University of Applied Sciences has adopted the German original of the following study and examination regulations for Master's Degree Study Programs. Whereas the German original is binding, the following English translation merely serves informational purposes.

Content

- § 1 Scope of Applicability of these Study and Examination Regulations
- § 2 Equal Status
- § 3 Aims of the Study Program
- § 4 The Master's Degree
- § 5 Admission
- § 6 Changing to another Version of the Examination Regulations
- § 7 Start of Programs
- § 8 Standard Period of Study, Modules, and Credit Point System
- § 9 Examination Board
- §10 Examiners and Observers
- §11 Examination Office
- §12 Recognition of Study Periods, Study and Examination Results, and Non-Academic Qualifications
- §13 Examination Performances
- §14 Retaking Exams
- §15 Free Trials
- §16 Assessing Examination Performances, Grades Achieved in the Modules, and Determining the Final Grade
- §17 Concluding the Study Program
- §18 Master's Degree Certificate and Master's Degree Diploma
- §19 Diploma Supplement
- §20 Accessing Study Program Records
- §21 Deceit, Breach of Regulations
- §22 Invalidating Examination Results
- §23 Withdrawing the Master's Degree
- §24 Coming into Force and Publication

I. General Regulations

§ 1 Scope of Applicability of these Study and Examination Regulations

These Study and examination regulations apply to Master's degree study programs at Merseburg University of Applied Sciences. They regulate these programs' principle structures.

§ 2 Equal Status

Terms used in these regulations which refer to either status or function are considered to be equally valid in their male and female forms.

§ 3 Aims of Study Programs

- (1) Study programs that are in accordance with the two-tier degree system of Bachelor's and Master's degree take into account the demands and developments in the professional environment. They provide students with necessary knowledge, skills, and methodology in such a way as to qualify them for a sound competence to judge, to critically categorize knowledge, and to act responsibly. Bachelor degree study programs are vocationally qualifying.
- (2) Master's degree study programs provide the basic methodology, issues, and theories of the respective scientific disciplines. These study programs aim at providing the ability to employ and disseminate acquired knowledge and skills in a professional environment. For this reason, such study programs initially refer to the plurality of possible professions.
- (3) Further details are outlined in the program-specific regulations.

§ 4 The Master's Degree

Following the successful conclusion of Master's degree study programs by meeting all requirements, Merseburg University of Applied Sciences confers the academic degree of a Master. The degree's detailed terminology is outlined in the program-specific regulations.

Merseburg University of Applied Sciences issues a certificate which attests the conferral of the Master's degree. Details are outlined in § 18.

§ 5 Admission

(1) Students are admitted to Master's degree study programs if they meet the requirements as outlined in Par. 27 of the State of Saxony-Anhalt's Higher Education Act (HSG LSA). Among those requirements is presenting evidence of having achieved the general or subject-related entrance qualifications to an

- institution of higher education in Germany (the German *Abitur* or *Fachabitur*), or the advanced technical college certificate (*Fachhochschulreife*).
- (2) Regulations of the individual study programs may provide further requirements for admission.
- (3) Restrictions of admission to individual study programs may apply.

§ 6 Changing to another Version of the Examination Regulations

Students may change to the most recent version of the respective examination regulations (or program-specific regulations) upon application. Such application has to be documented by the end of the preceding semester, thus until March 31 for a change in the following summer semester, or September 30 for a change in the following winter semester. Students who fail to meet the application deadlines cannot change to the respective version of the examination regulations before the following semester. It is possible to change to the latest version of the examination regulations at any time until applying for being admitted to the Master's thesis. Such change is optional on the condition of meeting the requirements of those regulations to which the student wishes to change to. It is not possible to change to any other version of the examination regulations or the program-specific regulations than the latest ones. Students cannot change back to an older version of the examination regulations (or regulations of the individual study programs).

§ 7 Start of Programs

Course planning is typically oriented to beginning a study program in the winter semester. Depending on the regulations of the individual study programs, students may begin their study program in either the winter or the summer semester.

§ 8 Standard Period of Study, Modules, and Credit Point System

(1) Including all examinations and the Master's thesis, the standard study period in a Master's degree study program at Merseburg University of Applied Sciences is 4 semesters. In exceptional cases, the departments may define standard periods of study which exceed 4 semesters. The standard period of study must not, however, exceed 12 semesters. It is also imperative to respect Paragraphs 3, 4, 6 and 8 of the German Maternity Protection Act (Mutterschutzgesetz, MuSchG) and the period for being granted parental benefit (Erziehungsgeld) according to the German Federal Law for Parental Benefit and Parental Leave (Bundeselterngeld- und Elternzeitgesetz, BEEG). The departments have to devise their program-specific regulations in such a way as to enable the student to conclude the Master's degree study program (including examinations, Master's thesis, and the colloquium) within the standard period of time.

(2) Study programs are structured in modules. Modules are course units which are selfcontained in content and period. They lead to explicit partial qualifications in relation to the individual study programs' outcome to be achieved. Modules may be constituted by a number of educational activities.

The scope of every module is determined by the students' workload, which is represented by credits according to the European Credit Transfer and Accumulation System (ECTS).

- (3) In order to successfully complete the Master's degree study program, students have to acquire 300 (ECTS) credits for which is also taken into account their previous vocationally qualifying study program.
- (4) Credits correspond to the expected necessary workload of students. This workload covers the time to prepare and revise learning content (independent study), the time to participate in courses and exams in class, or to participate in distance learning over the internet/e-learning (contact study). The mean workload is projected to be 1,800 working hours per academic year. Students may acquire 60 credits per academic year, i.e., 30 credits per semester. The workload to acquire one credit corresponds to some 30 working hours.
- (5) Students, who fail to acquire at least 50% of the expected achievements in the Master's degree study programs (30 credits) by the beginning of the third semester, will be removed from the register of students (*Exmatrikulation*).
- (6) Ascertaining the duration of study is essential for complying with the limit of time as defined in Sec. 5 as well as limits defined in these study and examination regulations in general. Extensions of and breaks in the standard period of study are not taken into account if they are the result of one of the following circumstances:
 - 1. Pregnancy or raising a child, for at least the period foreseen in Paragraphs 3, 4, 6 and 8 of the German Maternity Protection Act (*MuSchG*) and the period for being granted parental benefit (*Erziehungsgeld*) according to the German Federal Law for Parental Benefit and Parental Leave (BEEG),
 - 2. Participation in any board or body of an institution of higher education, a student council or a student union which are provided for by law or statutes,
 - 3. Illness, disability, or any other reason beyond the student's control.

Students are obliged to present the necessary documentation if claiming exemptions for reasons which are outlined under 1.–3.

(7) Credits for a module are only allocated collectively, and only if the module has been concluded adequately, i.e., the student's performance is evaluated at least with "sufficient" (4.0).

- (8) The period of a module generally covers one or two semesters; one module may cover several semesters in substantiated exceptional cases.
- (9) Admission for a module may be based on meeting certain requirements, in particular on having successfully participated in another module, or in several other modules.
- (10) Module descriptions outline the students' required performance (visiting courses, passing exams), learning content, form of academic instruction, procedures of examination, and specific study program requirements. Module descriptions have to be published in module manuals and online in the respective digital examination management system. Prior to publication, or in case of considerable alterations of module descriptions, a study program's module manual has to be adopted by the faculty council.

The module coordinator devises module descriptions with reference to:

- courses
- content
- form of academic instruction
- allocating learning content to in-class segments and independent study
- examination components/required exams

The module coordinator also clarifies all issues which concern details, especially those of coordinating content and of all organizational aspects that are related to the individual module. The faculty council of the department which is responsible for the module appoints the module coordinator among the faculty members who are qualified for examination in said module. Typically, this is the professor who is appointed for the subject area.

The department publishes a list of elective modules by the end of the preceding semester. Fields of specialization as well as study and elective modules are conducted if attended by at least 10 students. In substantiated cases of exception, the Dean may provide a variant provision.

(11) Individual regulations for study programs of one department may lay down the admission to courses if didactic and methodological requirements or other reasons mandate limiting the number of participants in a course, field of specialization, or study segment, and if the number of applicants exceeds their capacity. Such limitation might be necessary for the ordered course of study, to guarantee the range of courses required according to the study and examination regulations of the individual study program, or to ensure the quality of teaching and learning.

In order to identify if the number of applicants exceeds the capacity, the following sizes of groups have to be consulted:

lecture: 60 applicantsseminar: 25 applicants

- tutorial/exercise: 15 applicants

The departments have to outline criteria and further procedures in their respective regulations of admission.

- (12) Details are outlined in the program-specific regulations.
- (13) The examination board may accept a special curriculum upon written application and in agreement with the applicant. Eligible for that are especially qualified students, professional athletes, students with a physical disability, or with a considerable long-term physical, health, or comparable disadvantage, such as pregnancy or single-parenting.

II. Examination Organization

§ 9 Examination Board

- (1) Examination boards have to be formed for the departments or the individual study programs. Such boards organize examinations and ensure the assigned requirements as outlined in these examination regulations. The examination board for the individual study programs may be formed by more than one department. One board may also be responsible for more than one study program.
- (2) Examination boards ensure that the provisions of the examination regulations are acknowledged, and regularly report to the faculty council any developments in the examination praxis as well as study periods. The boards also suggest alterations of the study and examination regulations, as well as study plans.

The board's offered suggestions have to be considered in the study program conference as well, which is to take place annually. The appropriate examination board for the individual study program invites to and carries out the study program conference. It is open to the department and intended to foster the exchange between faculty and student body, but also to contribute to the development of study programs. For this aim of assessing the quality of and ability to study, it is important to consider the collective information provided by the examination board, but also information collected through the integrated quality management at Merseburg University of Applied Sciences.

- (3) The members of the examination board are entitled to be present at any examination of their choosing.
- (4) The examination board is constituted by the group of professors, the group of teaching staff according to Par. 33 Sect. 1 No. 2–3 HSG LSA, and a student representative. The number of professor members has to be determined in such a way that they constitute at least the absolute majority of votes. The chairperson and the alternate have to be professors. Unless the student representative is qualified

according to Par. 12 Sect. 4 of the HSG LSA, he or she is not involved in decisions concerning the valuation of examination performance, or the recognition of the students' study and examination results. The term of office on the board is 4 years, one year for the student representative.

- (5) The faculty council appoints the chairperson, the alternate, the other members of the examination board and their alternates. The chairperson conducts the examination board's business.
- (6) Sessions of the examination board are not public. Other members of the University of Applied Sciences may participate in the sessions in a consultative function and upon invitation.
- (7) The chairperson or the examination board convenes the board's sessions. He or she is entitled to decide alone over urgent matters but when doing so, he or she has to inform the board immediately. The examination board may further entrust the chairperson with individual assignments until further notice. In this case, the chairperson will execute such assignments autonomously.
- (8) The examination board has a quorum if all members have been invited in writing and at least three working days before convention, and if at least half the members are present. The examination board decides with the majority of its members' valid votes. At a parity of votes, the chairperson's is the casting vote or the alternate's vote in the case of the chairperson's absence. Records have to be kept for all sessions of the examination board. The examination office has to be provided with a copy of such records.
- (9) Negative decisions of the examination board concerning students have to be made known to them immediately and in writing. Such notifications have to include the respective legal information.
- (10) Members of the examination board and their alternates are subjected to the official duty of confidentiality. The board's chairperson has to compel members to the duty of confidentiality as long as they are not in public service.
- (11) The examination board constitutes a public authority according to the German laws of administrative procedures and processes.
- (12) Details are outlined in the program-specific regulations.

- (1) The examination board appoints the examiners and observers. Every person is authorized to conduct examinations if meeting the requirements as outlined in Par. 12 Sect. 4 HSG LSA.
- (2) Examiners and observers are independent in their examining position.
- (3) Examinations are typically conducted by at least two examiners. According to Par. 12 Sect. 5 HSG LSA, oral examinations may be conducted by one examiner if a knowledgeable observer is present. A record of the oral examination has to be kept.
- (4) The chairperson of the examination board provides examinees timely with the names of the examiners and the dates of the examinations to take place.
- (5) Examiners and observers are subjected to the respective provisions in § 8 Sect. 10.

§11 Examination Office

- (1) Merseburg University of Applied Sciences has constituted a central examination office which supervises all study programs at Merseburg University of Applied Sciences.
- (2) The examination office organizes the administrative preparation and conduct of examination procedures on the basis of preliminary work provided by the departments. The office also administers examination data, and issues the certificates and diplomas of Merseburg University of Applied Sciences. It equally supports in an administrative sense the examination boards in the fulfillment of their tasks. The examination office further checks the actual application of study and examination regulations. The office takes a coordinating function in matters concerning examinations across the departments, such as regulations of procedure or the consistent interpretation and implementation of regulations.

§12 Recognition of Study Periods, Study and Examination Results, and Non-Academic Qualifications

- (1) All study and examination results are recognized without an equivalence assessment as long as they have been achieved in the same study program at an institution of higher education within the area of application of the German Basic Law, i.e., in the Federal Republic of Germany.
- (2) Study and examination results which are not covered by §12 Sect. 1 are recognized upon application as long as they have been achieved in a study program at an institution which imparts higher education and is recognized by the authorities in the respective country as belonging to its system of higher education. Such results are recognized if the acquired skills are not identified and proven to

be considerably different from the skills the courses they are intended to substitute at Merseburg University of Applied Sciences would provide. Provisions of the Lisbon Convention apply, dated November 11, 1997, as well as the agreements of equivalency as accepted by the Conference of the German Ministries of Culture and Education and the German Rectors' Conference. Regulations within the scope of university cooperation agreements may also apply.

- (3) Sects. 1 and 2 also apply to the recognition of study and examination results which have been achieved in officially recognized distance learning programs, or in distance learning units which have been developed by the State of Saxony-Anhalt, other German states, or the Federal Republic of Germany. They equally apply to results acquired at state or officially recognized vocational academies or through a further education program.
- (4) Non-academic qualifications may be recognized upon application and according to the individual regulations of the study programs. No more than a total of 50 percent of the study program, however, may be substituted by knowledge and skills acquired outside Merseburg University of Applied Sciences. When recognizing non-academic qualifications, the corresponding study periods are also officially recognized.
- (5) Students may be entitled to begin their study program in a higher semester after participating in a placement text according to Par. 15 Sect. 1 HSG LSA. Knowledge and skills proven in the placement test are accordingly recognized as study results. Such recognition is recorded on the certificate.
- (6) If study and examination results are recognized, their grades will be accepted (or converted) and considered for determining the final grade. When converting foreign examination results (grades) into the German system of grading, the "modified Bavarian formula" is to be used. If grading systems are incompatible, the comment "passed" is used. Such recognition is noted in the diploma.
- (7) The appropriate examination board decides over the recognition of study periods as well as study and examination results upon the students' written application. Students have to present the necessary documentation at the point of application.

The application of recognizing study and examination results has to be documented with the examination office by the end of the study program's third semester. Applications are subjected to different deadlines if they refer to non-academic qualifications or results which have been achieved in the course of the study program, such as during semesters abroad. The regulations for the specific study programs provide the deadlines for such applications. Recognizing those results may be decided in advance upon application.

A learning agreement between the candidate and the examination board supersedes the process of application and decision. The application has to be rejected if not meeting the deadline according to the 3rd sentence (of this § 12 Sect. 7) for reasons that lie within the applicant's control.

(8) In case of rejecting an application of recognizing study periods, study and examination results, or non-academic qualifications, the examination board has to inform the applicant immediately and in writing about the decision and the reasoning it is based on. Such notification has to include information as to the terms under which a later application might be feasible, as well as legal information. Recognizing study periods or study and examination results according to Sect. 1 is an official procedure.

§13 Examinations

- (1) Forms of examination may be the following: exams, presentations, e-exams, essays, or (practical) tutorials/exercises, oral exams, papers, or proceedings. Usually the language of examination is German, but may be another language if announced as such by the faculty at the beginning of the course. Examinations must be individually assignable. In other words, the performance of the individual, examined student must be clearly definable and assessable for itself by stating segments, page numbers, or other objective criteria. They have to comply with the standards of the expected performance in examinations.
- (2) In order to conclude a module successfully, an examination performance should be expected which refers to some, several, or all courses of the module. The students' performance is typically assessed by the respective teacher.
- (3) The basic forms of assessing the examination performance as well as other details of the procedure are outlined in the module descriptions. The respective teacher who assesses the examination performance also chooses the specific mode of assessment. Specific regulations concerning the form and time of announcing such additional information are also outlined in the module descriptions.
- (4) Following the regulations which are specific to the individual study programs, grades have to be assigned for examination performances. If several examinations are required in the course of one module, they have to be combined to one final grade for the module. Grading follows § 15.
- (5) Grades which reflect the students' examination performance, or those for the overall module, are typically made known to the students four weeks after they were assessed, or after the module was conclude. Extending this period must not exceed six weeks. This regulation must not be deviated from for the disadvantage of students.
- (6) In case a candidate fails to perform in an examination, the examination office will assign the grade "unsatisfactory" and thus consider it failed. An examination is equally considered failed if not submitted on time, or if the candidate fails to appear for an examination without de-registering from it within the period stipulated in Sect. 10.

- (7) Upon written application and in agreement with the student and examiner, the examination board may request equivalent proof of study and examination performance within extended deadlines or handling times, or in another form. This might be done if students prove sufficiently that they are partially or entirely unable to perform in examinations or studies within given periods or in given manners. Acceptable reasons for such incapacity are physical disabilities, and considerable long-term physical, health, or comparable disadvantages beyond the scope of knowledge and skills to be examined. Pregnant and single-parenting students, for instance, also qualify for having comparable disadvantages.
- (8) The application according to Sect. 7 has to be documented with the examination board within six weeks after the examination took place.
- (9) Students typically register in the first four weeks of the semester for being examined at the times scheduled by the examination office. The deadline for registration is seven calendar days before the examination takes place.
- (10) Students have to deregister from their examination in a written form. The examination office further has to document their deregistration by the seventh day before the examination takes place. Examinations, from which students deregister, have to be taken at a later point according to the regulations concerning retaking exams (§ 13).
- (11) If candidates are prevented to have their examination performance assessed for substantial reasons or due to illness after the deadlines have passed according to Sect. 10, they have to inform the examination office immediately and in a substantiated way. In case of illness, this requires a doctor's certificate.
- (12) Students have to compose a Master's thesis which is part of a module. The period of processing it has to be determined in such a way as to ensure graduation within the standard period of study. Students in the concluding semester also have to be granted studiability according to the regulations.
- (13) Students who are granted leave of absence due to family issues may voluntarily participate in the study program or in examinations. Students who are granted leave of absence for other reasons may take up to two exams upon applying to the examination board to do so. Those students, regardless of the reasons for their leave of absence, may retake failed exams within the period of absence upon written application to the examination board. The application has to be documented by the examination office. Regulations according to § 13 remain unaffected.
- (14) Details are outlined in the program-specific regulations.

§14 Retaking Exams

(1) Failed exams may not be retaken more than twice. Program-specific regulations may further limit the number of the possible retake exams. It is not possible to

- retake a successfully passed examination, unless the individual study program's regulation concerning free trials foresees such option.
- (2) Retake exams have to take place no later than in the second semester after it would have been successfully concluded.
- (3) Any unsuccessful attempt to pass an exam is charged to the number of applicable retake exams according to Sect. 1. This covers all failed attempts taken in the same study program at any institution of higher education within the area of application of the Higher Education Act.
- (4) There has to be an option for retests and the first retake of exams in every semester. It is possible to depart from this rule in substantiated exceptional cases and under consideration of Sect. 2. Dates of exams which are not centrally planned, have to be published and made known to the examination office no later than three weeks before taking place. It is the students' obligation to register with the examination office on time when participating in retests and retakes. Students have to apply to the examination board within six months after a failed exam if they wish to participate in a second retake. As a rule, the second retake has to be decided upon and taken within six weeks after the application. It is also the students' obligation to find a date for the exam together with the examiner.

§15 Free Trials

The individual regulations of eligible study programs outline the conditions under which the participation in exams might count as free trials if taken within the standard period of study.

§16 Assessing Examination Performances, Grades Achieved in the Modules, and Determining the Final grade

- (1) Any form of examination will be considered passed if the student's performance is graded at least as "sufficient." If the examination performance is assessed by two examiners, both must assess it at least as "sufficient." If their assessments differ from one another, the grade will be the result of the arithmetic mean. In this case, all decimals but the first are disregarded without any rounding.
- (2) In order to assess the student's performance the following grades are used:

1 = excellent (sehr gut) = an outstanding performance,

2 = good (*gut*) = a performance that exceeds the average requirements considerably,

3 = satisfactory = a performance that fulfils average (befriedigend) requirements,

4 = sufficient = a performance that fulfills requirements (ausreichend) despite its flaws,

5 = unsatisfactory = a performance that does not fulfill (nicht ausreichend) requirements due to major flaws.

The examination performance may be assessed in a nuanced way through increasing or decreasing the individual grades by 0.3. It is, however, impossible to award the following grades: 0.7, 4.3, 4.7, or 5.3.

(3) A module is typically concluded by an examination which is graded according to Sect. 1. The resulting grade is the grade achieved in the module.

The module may also be graded by a weighted arithmetic mean according to the program-specific regulations. It is then determined from the numerical value of the grades achieved in all examinations which are part of the module. In this case, all decimals but the first are disregarded without any rounding. Each individual examination which contributes to the final grade for the module has to be passed. If students fail to do so in one exam, only this one will have to be retaken. Grades resulting from other exams in the same module remain unaffected. The module description outlines the credits to gain through exams in said module.

Grades for the Module are the following when averaging

up to 1.5 = excellent (sehr gut),

from 1.6 to 2.5 = good(gut),

from 2.6 to 3.5 = satisfactory (*befriedigend*), from 3.6 to 4.0 = sufficient (*ausreichend*).

- (4) The final grade is constituted by the arithmetic mean of the numerical value of all grades achieved in the respective module. They are weighted according to credits. Determining the final grade follows the calculation specification and grade assignment as outlined in Sect. 2. The individual study programs may provide variant regulations. Details are outlined there.
- (5) A relative grade (*relative Note*) is reported in addition to the final grade according to Sect. 4. This relative grade offers the position of the student's individual final grade within the study program through a ranking. It is intended to allow for a comparability of examination results in the international context. The relative note is given according to the "grading table" as suggested by the ECTS user's guide. It reflects the grading within the individual study program. The ECTS grading table refers to at least two and no more than five years of a reference group which is constituted by at least 30 graduates of the study program the student has graduated in. Both reference group and period have to be noted. The grading table is stated in the Diploma Supplement.

§17 Concluding the Study Program

(1) The study program has to be concluded by a Master's thesis and a colloquium. Students are admitted to the Master's thesis upon application. Admission to the

- colloquium has to be denied if there are other study or examination results missing which the program-specific regulations require for its conclusion.
- (2) Students conclude the Master's degree study program successfully if they have participated in all required modules according to the regulations of the study program, and have also gained the respective number of credits.
- (3) Students are expected to conclude the Master's thesis as well as the colloquium (the Master's exam) within the standard period of study. If students exceed this period for reasons within their control by more than three semesters, the Master's exam will be considered as taken and failed (for the first time).
- (4) The Master's thesis is an examination paper. It is intended to demonstrate the students' ability to handle an issue in their field independently, according to scientific standards and within a limited period of time. The Master's thesis topic and scope have to correspond to the intention of the examination as well as to the time required for concluding it. The task and its nature have to be defined by the time of issuing the topic.
- (5) If candidates do not conclude the Master's degree study program successfully, they will be provided with a written certificate upon application and after presenting the respective evidence as well as the confirmation of deregistration. Said certificate contains the candidates' study and examination results (including achieved grades), as well as an overview of missing results needed for graduating in the Master's degree study program. The certificate has to include information that the candidate has not successfully graduated yet in the Master's degree study program.

§18 Master's Degree Certificate and Master's Degree Diploma

- (1) If candidates conclude the Master's degree study program successfully, they will receive a certificate documenting the results. The certificate covers:
 - a.) Grade for the Master's Thesis,
 - b.) Topic of the Master's thesis,
 - c.) The individual grades for the modules,
 - d.) The final grade for the Master's exam.
- (2) The certificate bears the date of the last examination result.
- (3) Successful candidates will receive the Master's Diploma together with the Master's Degree Certificate. The Diploma certifies having been conferred the academic degree according to § 4.
- (4) The Master's Degree Certificate and Diploma are supplemented with their respective English-language version.

(5) Both Master's Degree Certificate and Master's Degree Diploma are signed by the Dean, and affixed with the seal of the University of Applied Sciences in Merseburg.

§19 Diploma Supplement

- (1) Graduates are provided with a diploma supplement along with the Master's Degree Certificate.
- (2) The Diploma Supplement is an English-language supplement to the certificate. It is a record of the completed content and course of the studies, as well as the academic and professional qualifications acquired upon graduation.

§20 Accessing the Study Program Records

Within one year after concluding any examination, candidates have the right to access upon application any of their work, remarks by those teachers assessing their performance, and the respective records. Details are outlined in the program-specific regulations.

§21 Deceit, Breach of Regulations

- (1) If candidates attempt to manipulate the results of an examination through means of deceit, such as using unauthorized tools, the respective examination will be considered as not delivered at all, and will be graded "unsatisfactory (*nicht ausreichend*)" (5.0). Following a warning, faculty or the respective supervisor may exclude anyone from an examination who attempts to disturb its process. In such a case, the respective examination is considered as not delivered at all and is graded "unsatisfactory (*nicht ausreichend*)" (5.0). The reasons for exclusion have to be officially documented. In serious cases, the examination board may exclude the candidate from future examinations.
- (2) Negative decisions of the examination board concerning a student have to be made known to that student immediately and in writing. It has to include the board's reasoning the decision is based on. Students must have the opportunity of a statement before a decision is made.

§22 Invalidating Examination Results

(1) If candidates have manipulated the results of an examination, and this fact becomes known only after their certificate has been delivered, the examination board may subsequently correct the results and, if necessary, the grades for those examinations the candidates has manipulated. The examination board may declare examination results to be invalid in parts or entirely. (2) The issue of candidates who do not factually meet the requirements for admission to a module but who are examined in its scope in good faith is considered solved upon passing the exam and thus concluding said module. It is based on the conditions that there was no intention of manipulation on the candidates' side and that the fact of the candidates' inadvertent admission becomes known only after their grades have been made public.

If candidates have gained admission under false pretense, the examination board will decide over legal consequences in accordance with the State of Saxony-Anhalt's laws of administrative procedures.

- (3) Candidates must have the opportunity of a statement before a decision.
- (4) Any improper certificate is to be seized, and a new one to be issued if applicable. Making a decision according to Sect. 1 and Sect. 2, 3rd Sentence, is not permissible after a period of five years that begins with the date of the examination certificate.

§23 Withdrawing the Master's Degree

The Master's Degree may be withdrawn if it becomes evident that it has been achieved under false pretense. It may be equally withdrawn if substantial requirements have erroneously been considered met. § 22 applies accordingly. The examination board is the authority for making such a decision.

§24 Coming into Force and Publication

The binding German original of these regulations come into force on the first day after being published in the official announcements of Merseburg University of Applied Sciences.

Issued following the decision made by the Senate of Merseburg University of Applied Sciences on September 25, 2014, and the consent of the Rector of Merseburg University of Applied Sciences on November 03, 2014.

Merseburg, this November 11, 2014

Prof. Dr.-Ing. Jörg Kirbs Rector

Attachment 1:

Concerning the Program-specific Study and Examination Regulations for the Master's Degree Study Program of "Mechanical Engineering/Mechatronics/Engineering Physics" (M-MMP) at the Department of Engineering and Natural Sciences of Merseburg University of Applied Sciences.

here: program-specific regulations for the Master's degree study program of "Mechanical Engineering/Mechatronics/Engineering Physics" (M-MMP) at the Department of Engineering and Natural Sciences

Scope of Applicability

This attachment to the study and examination regulations for Master's degree study programs at Merseburg University of Applied Sciences (*Rahmenstudien- und -prüfungsordnung für das Masterstudium an der Hochschule Merseburg*, RPOM) applies to the Master's degree study program of "Mechanical Engineering/Mechatronics/Engineering Physics," (M-MMP) at the Department of Engineering and Natural Sciences. Whereas the German original is binding, the following English translation merely serves informational purposes.

On § 3 RPOM Aims of the Study Program:

The Master's degree study program of Mechanical Engineering/Mechatronics/Engineering Physics seeks to prepare students for assuming demanding positions in the field and in leadership. The aim of the study program is the education of subject-oriented leading personnel who are able to implement successfully projects of a technical kind. It also aims at preparing for leading positions in research, development, construction, production, quality management, maintenance and other technical fields.

The study program teaches an education that is built on scientific foundations and through the practical aspects of learning. They enable the students to develop and implement mechatronic systems, technical processes, products and processes in general, as well as to manage and process projects independently.

For this purpose, students are provided with more than the basic skills which are specific to the field. They are provided with skills, methodology and abilities reflecting the current state of technology, and which enable graduates to work and valuate work independently and according to scientific standards.

Students are educated in such a way as to implement scientific work in project teams, to lead them, and to get familiar with cooperating in project teams as well as fostering such cooperation in practice.

The foundation of those activities is the dissemination of technical/science-oriented and economic skills, methodology, and tools concerning technical procedures, products and processes, mechatronic systems, innovation management as well as methods of development, planning, and optimization. It is a matter of disseminating skills, abilities and competencies which go well beyond the students' prequalification.

In order to do justice to the ever-internationalizing character of companies, students are requested to participate in practical segments abroad. Apart from acquiring essential and profound scientific/subject-related skills, students strive for key qualifications, especially languages and intercultural competencies.

Combining courses through which skills are taught with courses in which they are applied through special project work, allows for a specialization in respect to core but also to social competencies (such as the ability to work focused, in a team, or to solve problems).

On § 4 RPOM Master's Degree:

The academic degree of "Master of Engineering" (M.Eng.) is conferred upon graduating from the study program of "Mechanical Engineering/Mechatronics/Engineering Physics."

On § 5 RPOM Admission:

- (1) Students are admitted according to an admission process whose details are outlined in the respective admissions regulations of Merseburg University of Applied Sciences.
- (2) Applications and deadlines apply according to Par. 2 of the respective admissions regulations of Merseburg University of Applied Sciences.
- (3) Students are admitted to the Master's degree study program of "Mechanical Engineering/Mechatronics/Engineering Physics" in either the winter or the summer semester.
- (4) The admissions committee decides over the admission to the study program. Regulations to restrict admission are outlined in Par. 2 of the respective admissions regulations for Master's degree study programs at Merseburg University of Applied Sciences.

The following program-specific restrictions of admission apply:

- a) The first vocationally qualifying degree has to be acquired in an engineering study program or in a study program related to mathematics or the natural sciences.
- b) In order to be admitted to the Master's degree study program, candidates have to provide evidence for having completed their Bachelor's degree study program with 210 ECTS credits. If missing up to 30 credits and following an individual assessment of the candidates' prior skills (content of the Bachelor's degree), the examination board may either recognize skills, or impose conditions to acquire competencies totaling up to 30 ECTS credits. Candidates have to evidence the acquisition of missing credits by the time of application for the Master's thesis. The examination board decides over their recognition.
- c) Applicants who have not graduated from the Bachelor's degree study program of "Mechanical Engineering/Mechatronics/Engineering Physics" at Merseburg University of Applied Sciences are subjected to an interview.

On § 7 RPOM Start of Program:

Students may register for the Master's degree study program "Mechanical Engineering/Mechatronics/Engineering Physics" beginning in either the winter or the summer semester.

On § 8 RPOM Standard Period of Study, Modules, and Credit Point System:

- (1) The standard period of study is 3 semesters. In order to graduate, it is necessary to acquire 90 credits.
- (2) In case of candidates being admitted with less than 210 credits (see § 5 b) the standard study period may be extended to 4 semesters by devising a special curriculum.
- (3) The module manual outlines all required study and examination results, in particular the course of studies, content, and individual forms of examination.
- (4) The faculty council appoints a course counsellor. The counsellor is, along with the full-time employed coordinator of the program, responsible for regularly offering consultation-hours and information sessions. The course counsellor has to ensure the following: informing about details and the course of the study program, but also counselling in case of issues which may become obstacles for reaching the aims of the program.
- (5) The study program is structured in modules. In the first year of study, they cover advanced principles of mathematics and the natural sciences, specializing principles and the application of technical engineering. Modules to be taken in the first year of the study program also include elective courses and those offering specialization in one of the fields of mechanical engineering, mechatronics, or physical engineering. Further interdisciplinary electives will be taken to the extent of 5 credits and will provide skills in economics or the social sciences. The third semester is dedicated to devising a practice project and the Master's thesis. These, combined with the Master's seminar/colloquium, add to a workload of 30 credits in the third semester of the Master's degree study program. The individual modules are listed in the quantified catalog of modules (see Attachment 2).
- (6) Elective or specialized courses are only offered if meeting the required minimum number of participants as outlined in the general study and examination regulations.

On § 13 RPOM Performances of Examination:

On Paragraph 1

The language of examination is the one designated in the module description (typically, German). Students and examiner may agree upon another language.

On Paragraph 3

Oral Examinations

- (a) In oral exams, candidates have to prove their ability to understand correlations within the field of examination, and to process specific tasks successfully. They further have to prove their command of a broad basic knowledge.
- (b) During oral module examinations, candidates are typically tested by several examiners (thus in front of an examination board) in the form of group examinations or individual ones.
- (c) Oral exams typically cover at least 15 but no more than 45 minutes, depending on candidate and subject.
- (d) The examination's main topics and results in the individual subjects are to be recorded. Following the examination, the candidates have to be informed of its results individually.

Tests and other Written Examinations

Tests and/or other written examinations have to prove the candidates' ability to understand and address an issue successfully during a limited period, with limited tools, and through the common methodology of their field.

On Paragraph 9

Master's Examination (Master's Thesis and Colloquium)

- (1) Admission for the Master's Thesis
 - (a) Candidates are only admitted for the Master's thesis if they meet the requirements to do so and have acquired at least 55 credits.
 - (b) Candidates have to apply for admission to the examination office in writing and before receiving the task of the Master's thesis. The following documentation must be attached to the application:
 - evidence for having acquired 55 credits
 - suggestion for a topic of the Master's thesis, as well as names of suggested first and second examiner

The examination office determines the form of application. The chairperson of the examination board decides over the admission.

(c) By admitting candidates for the Master's thesis before receiving the task, the chairperson of the examination board confirms the topic as well as the two examiners. The time of receiving the task has to be noted officially.

(2) Master's Thesis

(a) The Master's thesis is an examination. It is intended to demonstrate the students' ability to handle an issue in their field independently, according to scientific standards and within a limited period of time.

- (b) The Master's thesis may be conducted in an institution which is not directly affiliated with Merseburg University of Applied Sciences, such as in cooperation with a company or a scientific institution. If conducted at a company, the department's regulations for industrial projects may be applicable by analogy.
- (c) The topic of the Master's thesis may be assigned by any full-time professor of the Department of Engineering and Natural Sciences (*Ingenieur- und Naturwissenschaften*, INW). The full-time professor assigning the topic also serves as first examiner of the thesis. Candidates must have the opportunity of suggesting topics for the Master's thesis.
- (d) Master's theses are processed within 16 weeks. The first examiner has to limit the Master's thesis' topic, task, and scope in such a way that candidates are able to keep within said period of processing it.
- (e) The topic may be returned just once and only within the first month after commencement. In exceptional cases, the examination board may extend the period of processing the thesis by up to four weeks upon the candidate's substantiated application.
- (f) Examiner and student may agree on English as the language of the Master's thesis.
- (g) When submitting the Master's thesis, candidates have to affirm in writing that they have composed the thesis independently, have used no sources or aids other than those indicated, and have appropriately declared all citations.
- (h) Candidates have to submit to the examination office three printed copies and a digital copy of their Master's thesis in due time. The date of submittal must be officially noted. If candidates fail to submit the Master's thesis on schedule, it will be graded as "unsatisfactory (*nicht ausreichend*)" (5.0).

Both examiners should assess the thesis within four weeks after submittal.

(3) Colloquium

- (a) In the course of the colloquium, which is to take place no more than two months after submitting the thesis, candidates have to prove their ability to defend the results of their Master's thesis in a presentation and in an expert discussion. Candidates further have to prove their ability to answer questions of their fields of specialization independently and on a scientific basis, but also in an interdisciplinary and problem-related way.
- (b) As a rule, colloquia have to be conducted publically at Merseburg University of Applied Sciences.
- (c) Candidates will be admitted to the colloquium if at least two examiners assess the Master's thesis as "sufficient (ausreichend)" (4.0). Candidates must also prove to the first examiner that they meet all other requirements as outlined in the study and examination results.

At least two examiners conduct the colloquium as an examination. The first examiner is also chairperson of the examination committee. As a rule, colloquia cover 45 minutes.

(4) Assessing the Master's Thesis

- (a) Both examiners have to evaluate and assess the Master's thesis. The reasoning behind the individual assessment has to be outlined in writing. The examination board will appoint an additional examiner if the difference between the first and second examiners' individual assessments is greater than 2.0. The Master's thesis will only be graded "sufficient" or better if both examiners assess it as "sufficient" or better.
- (b) The grade for the written Master's thesis is the result of the arithmetic mean of the grades given in the examiners' evaluations. The grade for the colloquium is the result of the arithmetic mean of the grades given by the involved examiners. For this, all decimals but the first are disregarded without any rounding.
- (c) In order to determine the final grade for the Master's thesis and the colloquium, the following weighting applies:
 - 1. Grade Master's Thesis (written part): weighted 0.67
 - 2. Grade Colloquium (oral part): weighted 0.33

If the colloquium is graded "unsatisfactory (*nicht ausreichend*)" it may be retaken once. As a rule, there has to elapse one month before the colloquium may be retaken. If candidates fail the colloquium's retake, the entire Master's examination is considered failed.

(d) The Master's examination may be retaken only once.

(5) Additional Subjects

- (a) Candidates may take examinations in other subjects than the ones required (additional subjects).
- (b) Examination results in those subjects are not considered for determining the final grade.

On § 14 RPOM Retaking Individual Exams:

- (1) Excluding the final exam (Master's thesis and colloquium), exams may be retaken no more than twice (see Sect. 3). It is impossible to retake already successfully passed exams unless invoking the regulations concerning free trials (§15).
- (2) If requested, exams must be retaken in the following summer semester.

(3) If candidates fail a retaken exam they may be examined in a second, oral retake. Only two second retakes are permissible for the entire Master's degree study program. If the second retake is graded "unsatisfactory (*nicht ausreichend*)" (5.0), the examination will ultimately be considered as failed and the candidate will be removed from the register of students.

On § 15 RPOM Free Trials:

Students have the option of one free trial (voluntary retakes) over the course of the Master's degree study program. If requested, candidates apply for a free trial to the examination office and according to the regulations concerning retests and retakes of exams.

Students may only make use of the free trial regulation in case of an already successfully passed exam.

Retaking exams voluntarily has to take place on the regular dates for retests and retakes, and within one year after the first taken exam. The grade for the examination is the higher achieved in either the first exam or the voluntarily retaken one.

On § 20 RPOM Accessing the Study Program Records:

Students may apply to the examiner for accessing their examination records within two months after the results of the examination have been published. The examiner defines the time and place of access. The students' academic records are afterwards filed at the examination office. Following this, students must apply for access to the examination office.

§ 25 of PSO Master MIP

Coming into Force and Publication

These regulations come into force on the first day after being published in the official announcements of Merseburg University of Applied Sciences.

The binding German original was issued following the decision made by the Faculty Council of the Department Department of Engineering and Natural Sciences/Fachbereich Ingenieurund Naturwissenschaften on January 1, 2015, by the Senate on March 26, 2015, and the consent of the Rector of Merseburg University of Applied Sciences on May 13, 2015.

Merseburg, this May 20, 2015

Prof. Dr.-Ing. Jörg Kirbs Rector

Attachment 2:

Concerning the Program-specific Study and Examination Regulations for the Master's Degree Study Program of "Mechanical Engineering/Mechatronics/Engineering Physics" (M-MMP) at the Department of Engineering and Natural Sciences of Merseburg University of Applied Sciences.

<u>here</u>: Module Overview for the Master's Degree Study Program of "Mechanical Engineering/Mechatronics/Engineering Physics" at the Department of Engineering and Natural Sciences

Specialization: Mechanical Engineering

Module No.	Designation	Credits	Semester	Graded (number)	Not graded
INW-701	Product Design	5	1	1	
INW-702	Lasers in processing in the microand macro-range	5	1	1	
INW-704	Applied dynamics of machines	5	1	1	
INW-703	Technical acoustics	5	1	1	
INW-705	FEM	5	1	1	
INW-706	Technical elective I	5	1	1	
INW-707	Design of machine tools	5	2	1	
INW-708	Methods and tools of the digital factory	5	2	1	
INW-710	Rapid prototyping	5	2	1	
INW-711	Signal processing and control	5	2	1	
INW-709	Technical elective II	5	2	1	
INW-712	Interdisciplinary content	5	2	1	
Total		60			

Specialization: Mechatronics

Module No.	Designation	Credits	Semester	Graded (number)	Not graded
INW-713	Embedded systems	5	1	1	
INW-702	Lasers in processing in the microand macro-range	5	1	1	
INW-714	Virtual instrumentation	5	1	1	
INW-704	Applied dynamics of machines	5	1	1	
INW-705	FEM	5	1	1	
INW-706	Technical elective I	5	1	1	
INW-715	Mechatronic systems	5	2	1	
INW-716	Applied and service robotics	5	2	1	
INW-720	Piezoelectric sensors and actuators	5	2	1	
INW-711	Signal processing and control	5	2	1	
INW-709	Technical elective II	5	2	1	
INW-712	Interdisciplinary content	5	2	1	_
Total		60			

Specialization: Engineering Physics

Module No.	Designation	Credits	Semester	Graded (number)	Not graded
INW-713	Embedded systems	5	1	1	
INW-702	Lasers in processing in the microand macro-range	5	1	1	
INW-714	Virtual instrumentation	5	1	1	
INW-717	Structure and morphology	5	1	1	
INW-705	FEM	5	1	1	
INW-706	Technical elective I	5	1	1	
INW-718	Material diagnostics and reliability of microsystems	5	2	1	
INW-719	Current developments of lasers and application	5	2	1	
INW-720	Piezoelectric sensors and actuators	5	2	1	
INW-711	Signal processing and control	5	2	1	
INW-709	Technical elective II	5	2	1	
INW-712	Interdisciplinary content	5	2	1	
Total		60			

Module No.	Designation	Credits	Semester	Graded (number)	Not graded
INW-721	Industrial practice ²	10	3		1
INW-722	Master's thesis and colloquium	20	1	1	
Total		30			

This module is examined individually, but it is not graded. The examination can only be passed or failed.