



Study and Examination Regulations
for the Master's Program
Systems Engineering for Manufacturing
from
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On the basis of §§ 13 Abs. 1, 67 Abs. 3 Ziff. 8. and § 77 Abs. 2 Nr. 1 of the Higher Education Act of Saxony-Anhalt (HSG LSA) as of December 14th 2010 (GVBl. LSA S. 600) in their current version the Otto-von-Guericke-University Magdeburg adopts the following statutes:

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I. General

§ 1

Scope

The present study and examination regulations describe the objective, content and structure as well as the tests and the completion of the Master Program Systems Engineering for Manufacturing at the Faculty of Mechanical Engineering (FMB) of the Otto-von-Guericke-University Magdeburg.

§ 2

The aim of the program

(1) The Otto-von-Guericke-University Magdeburg is characterized by a strong internationalisation and engineering orientation. It is the field's leading university in the federal country. In the technical studies interdisciplinary collaboration of the Faculties of Mechanical Engineering, Electrical Engineering and Information Technology, Information Sciences, Process and Systems Engineering for Manufacturing Systems, and Economics and Management is emphasized. Mechanical Engineering as indispensable basis of any modern industry, information, and service society is one of the most interesting, multiple, and most prosperous technical disciplines.

(2) The objective of the studies is to provide a broad but at the same time detailed and critical view to acquire insights in the internationally-defined technical and methodological knowledge and competences to work independently along scientific methods, in which multiple tasks focused to application, research, or teaching related activities could occur in global manufacturing.

The Master's degree builds on content from engineering and natural science Bachelor's studies. Students acquire abilities in their field to critically evaluate solutions, tackle problems scientifically, represent methods and contents taking into account adjacent disciplines to analyse problems, find solutions with professional colleagues and experts or to improve their knowledge. Graduates are in a position to develop their area of expertise on the current state of the art and beyond, to acquire new knowledge, and to interact with professional colleagues all over the world. On the basis of incomplete information, the graduates are enabled to find science based decisions, also taking into account social and ethical insights. They will be in a position to take responsibility in a team.

(3) The master's program Systems Engineering for Manufacturing provides interdisciplinary education in scientific fields relevant for engineering and use of production systems. It provides knowledge and skills related to the location crossing engineering of new production systems based on the products to be manufactured as well as to life-cycle management of production systems.

The master's program covers the methodical basis for the engineering of production systems exploiting the paradigm of systems of systems. It provides expertise for the engineering and control of production systems and enables the identification and meaningful application of dependencies between different parts and/or aspects of production systems.

In addition lingual skills are provided enabling the application of the gained knowledge within international contexts.

(4) Due to the method-based training graduates of the Master's degree Systems Engineering for Manufacturing are hired in virtually all industries for charming and sophisticated tasks.

Fields for professionals are found in nearly all producing industries including machine and plant engineering and construction, automotive industries, chemical and pharmaceutical industries, food industries, space and aircraft industries, mining, steel and iron industries, textile industries, electric industries, medical technology industries, investment and consumer goods industries, and beyond. Application fields can be found in all sizes of

companies and all types of company businesses along the industrial value chain including but not limited to device vendors, component vendors, system integrators, engineering service providers, design offices or producing companies.

Extensive and challenging fields of activities with outstanding professional and personal development opportunities can be found on the one hand in managerial and professional activities in the global manufacturing industry and on the other hand in the practice of scientifically based research on the design engineering to work in science and education in the public service as well as research facilities.

If the required motivation and interest are given there are also attractive jobs open to graduates in technical sales departments.

Due to the orientation of the studies towards international research and a global context of engineering as well as the use of English as language of instruction graduates are able to work competent on engineering projects in international teams all over the world.

(5) The academic education as M.Sc. at Otto-von-Guericke-University provides all skills for further postgraduate training, for example promotion or PhD, in the field of mechanical engineering sciences and related fields.

§ 3

Academic degree

After the successful completion of the required exams, the Otto-von-Guericke-University grants the academic degree

"Master of Science", abbreviated "M.Sc."

II Scope and study courses

§ 4

Admission and registration requirements

(1) Requirements for admission to the Master's program are:

a) The applicant has a bachelor's degree, a Diploma degree from an university or a equally weighted higher education organisation, a comparable degree at a state or state-approved university of cooperative education, a master degree or one with a state examination completed degree in engineering or on a closely related field with an extend of at least 210 Credit Points (CP following ECTS).

b) The graduated degree has included (following ECTS)

- at least 25 CP in the competence field of natural sciences and informatics (including at least 10CP in mathematics, at least 5 CP in physics, and at least 5 CP in information sciences),
- at least 10 CP (ECTS) in design,
- at least 10 CP (ECTS) in engineering mechanics,
- at least 20 CP in the competence field of engineering sciences (including at least 5 CP in manufacturing technologies, at least 5 CP in material sciences),
- at least 15 CP (ECTS) in economics, and
- altogether includes 10 weeks of production system oriented internship within industry and business.

c) The special acceptability for a master degree study in accordance with 2 to 4 is documented.

(2) The special acceptability is secured by the results of an audit in accordance with paragraph (1) and assumes that the preceding study was completed with at least 2,5.

(3) Applicants must also have sufficient knowledge of the English language C1 level following the joined European reference system for languages. This evidence can be reached by providing one of the following certificates:

- TOEFL-Test (minimal score: paper based – 587, computer based – 240, internet based – 95)
- IELTS (minimal score: 7.0)
- Cambridge Certificate of Proficiency in English (CPE) with at least “C1”
- Cambridge Certificate of Advanced English (CAE) with at least “Grade C”,
- UNICert III

Deviations can be admitted at special request to the Examination Regulations Board.

(4) The decision on the fulfilment of the admission requirements is taken by the Examination Regulations Board.

(5) The admission has to be refused, if the applicant has finally not passed an examination within a master program or a comparable study program at any other university or college within the area of application of the Basic Law of the Federal Republic of Germany or is involved in a corresponding examination process.

§ 5

Starting dates and study periods

(1) Enrolments are executed at winter semesters. The curricula are aligned accordingly.

(2) The master's program is designed in a manner that the course can be completed within three semesters including the thesis and the colloquia.

§ 6

Outline and scope of study

(1) The master program is an on-campus course and has the profile type "more research-oriented" category. It is performed as a full-time study.

(2) The courses are structured in modules. Usually, tests will complete modules.

(3) The studies' efforts will be accounted in credit points (CP). The full study program amounts to a total of 90 CP, which include the compulsory, the compulsory chosen, the freely chosen and the project area plus the master's thesis. For a successful completion of the master degree in total 300 CP are required (including all prior university degrees).

The workload will be about 30 CP per semester.

The credit points describe the study effort, which depend among other things on attending the course, composed pre-and post-events, the self responsible seizure of the contents in depth as well as certificates acquired. One CP equals about 30 working hours.

(4) The course modules are given in the attached study and examination schedules as well as the module handbook published at Otto-von-Guericke-University Magdeburg

(5) The examinations to all compulsory modules have to be completed until the end of the semester named in the studies and exam planning. If this deadline is exceeded by more than one year, all not completed exams are regarded as failed a first time. This does not apply if the student can prove that he or she is not responsible for the transgression of the timeline.

§ 7

Study design

(1) The curriculum consists of compulsory, compulsory chosen, free elective and project areas. The volume of the different areas is defined in the Studies and Exam planning.

(2) Compulsory modules are modules which are mandatory for the successful finalisation of the master's program following Study and Examination Regulations. These modules are allocated in the first two semesters of the master's program.

(3) The compulsory chosen modules are named compulsory chosen if they are selectable by students out of the compulsory chosen lecture set defined in the module handbook. They should enable students to pursue individual interests and preferences or specialized needs of the future field of activity of students into account. The list of applicable compulsory chosen modules may change over time following the scientific development of the scientific fields and / or the availability of qualified teaching staff. The compulsory chosen modules are allocated in the first two semesters of the master's program.

The compulsory chosen modules are arranged in the different scientific areas. The applicable areas are defined in the module handbook.

(4) As free elective modules are named all modules, students can select from the complete lecture set of the Otto-von-Guericke University following the module handbook of the master's program Systems Engineering for Manufacturing. They should enable students to pursue individual interests and preferences or specialized needs of the future field of activity of students into account. The free elective modules are allocated in the first two semesters of the master's program.

(5) Compulsory, compulsory chosen and free elective modules usually will be completed with exams. Examinations are to perform during the run or at the end of each module. For each module that has been successfully completed, a certain number of credit points (CP) is awarded to the European Credit Transfer System (ECTS).

(6) Compulsory chosen and free elective modules will take place if at least 5 students attend the modules. Only Compulsory chosen and free elective modules can be integrated in the studies which have not been part of a prior Bachelor degree.

(7) The project area is intended for the execution of a scientific project. Students should be enabled to solve a self selected scientific problem in close cooperation with a professor of the Faculty for Mechanical Engineering of Otto-von-Guericke University

A project can be performed as a single person project as well as in a team. It is recommended that the project work is scheduled in the second Semester.

(8) The studies are completed with the master's thesis and their presentation in a colloquium. The master's thesis and the colloquium together represent a volume of 30 CPs. The period for completion is limited to 5 months. The thesis should demonstrate that the students are able to work out a problem self-responsibly and competently within a limited time frame.

(9) The information listed in the Annex to the assignment of modules and passing of examinations are seen as recommendations for the completion of the studies in time. For more information about the studies the examination office of the Faculty of Mechanical Engineering and the Matriculation Office of the Otto-von-Guericke-University Magdeburg are ready for advice.

§ 8

Types of courses

(1) The courses are offered in the form of lectures, exercises, practicals, projects and colloquia.

(2) Lectures cover the presentation and communication of scientific, functional technical, creative, and internationally accepted basic and specialist knowledge and methodological skills.

(3) Exercises are primarily applied for reflection and deepening of lecture contents and the acquisition of methodological capabilities in conjunction with application-oriented practices and tasks.

(4) In practicals the gained knowledge is applied and engrossed.

(5) In a "Project" named course a complex problem is solved under special consideration of theoretical and practical components. The presentation of the results is provided in a written document and an assigned project completion colloquium as usual in practice. It may be supervised by an interdisciplinary teaching team, where team members can act as coach and mentor. Students within one project may belong to different university semesters and different academic courses. The access to projects can be limited by special requirements/prerequisites to the students in addition to the provisions of the module. Students have the opportunity to execute the project independently following consultations with a teacher.

(6) In the colloquia, the presentation of the project work and the gained knowledge are put in the foreground. The character of the colloquia consists of theoretical and practical reflection of a topic on a high professional level.

§ 9

Academic advisory services

(1) To provide a better orientation for new students at the Otto-von-Guericke-University Magdeburg at the beginning of each new study program beginners events are offered.

(2) These regulations contain information of a general nature. For an exact orientation and planning of study further information is needed. Especially, students are advised to become familiar with the module handbook.

(3) A study counselling is offered from the faculty for each study program. The relevant persons are indicated on the website of the Faculty and the Examinations Office.

(4) A study expert advice can always be used and is particularly useful in the following cases:

- starting problems at beginning of the study,
- selection of study focus,
- significantly exceeded standard time periods of study,
- failed exams,
- switch of study program or university,
- studies abroad and individual study schedule design.

§ 10

Individual study schedules

(1) On request to the enrolment office a part time study following the basic regulations for part time studies of the Otto-von-Guericke University Magdeburg can be approved.

(2) Individual study schedules are intended to assist the successful completion of studies within the study period. They are offered in particular to those students who are challenged due to long illness, birth or care of own children or similar situations and should be, therefore, stronger supported.

(3) Individual study schedules are generally possible only with the approval of the program managers.

(4) The Academic Advisor is the contact person for the students in the preparation of an individual study schedules.

III. Examinations

§ 11

Examination Regulations Board

- (1) In order to perform the assigned tasks an examination regulations board is formed. This examination regulations board is nominated by the faculty board of the Faculty for Mechanical Engineering. It consists of ten members; seven of them are voting members. Five members are named from the group of professors, 4 of them with voting rights, and two members from the group of scientific staff members, and three members from the group of students (with one voting right) by the faculty of mechanical engineering. The examination regulations board will elect its leading member and the deputy leading member.
- (2) The examination regulations board will ensure the proper execution tests. It will ensure that the provisions of these regulations are met. It gives suggestions to improve these regulations and rules of study. Particular emphasis shall put on compliance with the standard period of study and the deadlines.
- (3) The examination regulations board will take its decisions by majority vote. Abstentions are not permitted. In the event of an even voting, the vote of the chairman will decide, at his or her absence, the deputy's vote. The examination regulations board has a quorum if the majority of its voting members, including at least two members of the group of professors, are present.
- (4) The term of election of members of the examination regulations board is two years, for the student members one year. Re-elections are admitted.
- (5) The examination regulations board may irrevocably determine the transfer of competencies to the chairperson or deputy chairperson following individual requirements and cases. The chairperson shall prepare the determinations of the examination regulations board, executes them and reports to the examination regulations board regularly about his or her activities.
- (6) The members of the examination regulations board have the right to take part in the examinations as observers.
- (7) The audit committee members are sworn to secrecy. If they are not employed in the public sector, they are sworn to secrecy by the Chairman to keep discretion.
- (8) To support the work of the examination regulations board an examination office exists at the faculty for mechanical engineering.

§ 12

Examiners and assessors

- (1) The examination regulations board appoints the examiners and assessors. For taking exams professors, junior professors, university teachers, university lecturers, research associates, scientific employees, as far as they have teaching duties, lecturers, and in professional practice and training experienced people can be named. Examinations should be evaluated only by persons who have themselves at least a master's degree or an equivalent degree.
- (2) For the evaluation of written examinations, two examiners have to be appointed. If the examination regulations board determines for an examination term, that even with the involvement of all for testing purposes applicable persons following clause 1 and under consideration of the additional burden on the testing persons the testing persons are strained too much or only one possible person is available, the examination regulations board may decide that such a written examination can be executed by one testing person. The decision has to be forwarded to the student for registering without delay. Proofreading by academic staff members is possible.
- (3) The evaluation of oral examinations at least two examiners or alternatively one examiner and a qualified observer have to be appointed.

- (4) The evaluation of mater thesis is regulated in § 23.
- (5) The examiners are independent in their activities.
- (6) The examination regulations board ensures that examines names are announced to the students in time.

§ 13

Recognition of study periods, study and exams

(1) The recognition/admission of study periods, study, and exam results as well as knowledge and qualification gained outside of a university is made by the examination regulations board based on written request. The amount of competences requested for recognition/admission shall not exceed in total 50 % of the overall CP of the study program (excluding Master's thesis), i.e. shall be less than 30 CP.

(2) The recognition/admission request of study periods, study, and exam results as well as knowledge and qualification gained outside of a university reached before enrolment to the master's program shall be submitted within three month after start of the study program at Otto-von-Guericke University to the examination regulations board.

The recognition/admission request related to study periods, study, and exam results reached at another university (for example internships) have to made latest 3 month after start of the subsequent semester after result achievement.

Students must submit the required documentation by original documents or certified copies.

After exceeding of the named time limits a recognition/admission of externally reached competences is impossible.

(3) Study periods, study and exam results in study programs at universities in the scope of the Basic Law of the Federal Republic of Germany shall be accepted if there is no essential difference to the one defined in this regulations. This is given, when study duration, study content and examinations are mainly in line with content, scope and requirements of the respective programs of study at Otto-von-Guericke-University. Here an overall assessment and evaluation is carried out instead of a schematic comparison. A recognition/admission under obligations is possible.

(4) Study periods, study and exam results in study programs at universities abroad shall be accepted if there is no essential difference. The evaluation of differences is made by the responsible lecturers for the different modules based on the comparison of competences derfined in the provided module descriptions. For the estimation of study periods, study and exam results in study programs that were performed at universities outside the Federal Republic of Germany the Lisbon Convention of November 11th 1997, the equivalence contracts and regulations accepted by German national Kultusministerkonferenz and Hochschulrektorenkonferenz, as well as equivalence regulations approved as part of university cooperation agreements have to be considered. Evaluation base is, as far as it is already applied on both sides, the European Credit Transfer System (ECTS).

(5) At comparable grading systems, the notes will be accepted and included in the calculation of the final overall grade.

(6) Recognition/admission of competences reached outside of the university is possible if they are equally to the competences gained within the modules of the master's program following content and reached skill level.

(7) Recognition/admission of master's thesis is impossible.

§ 14

Types of course-related exams

(1) The following types of course-related exams are possible:

1. Written exam,

2. Oral exam,
3. Scientific project,
4. Seminar exercise,
5. Paper work.

(2) In a written exam students should demonstrate their ability to identify a problem and find a solution to it based on usual methods of the examined subject in a limited time with limited resources and under supervision. The processing time of a written exam is at least 60 but not more than 180 minutes. A written exam may consist of multiple-choice-questions. Additional regulations are given in the guideline for the handling of multiple-choice-questions defined by the faculty of mechanical engineering.

(3) In an oral exams students should demonstrate their knowledge of a special scientific field and their ability to identify special problems and put them in relation to the subjects of the scientific field. As parts of the examination also written tasks are appropriate, if thereby the character of the oral exam is not repealed.

(4) The oral examination takes place in front of more than one examiner (examiner team) or in front of an examiner and an expert assessor. It is executed for an individual student or group with up to three students. The assessor is to be heard before defining the marking of the exam. The time schedule for the exams is at least 15 minutes but in total not more than 45 minutes for every student. The main objects and evaluation of the exam shall be recorded in a log. It has to be signed by examiners and assessors. The results of the exam are to be told to the student subsequent to the oral examination.

(5) By participating in a scientific project students should demonstrate that they are able to execute self responsible scientific work as well as that they are able to work in a team. The individual contribution to the project work has to be identifiable.

(6) In a seminar exercise complex issues with a scientific background shall be processed in writing. By using the relevant literature a text has to be developed and submit for evaluation to a tutor at a defined moment.

(7) A paper work consists of

- an independent and in-depth written analysis of a problem in the context of the course work and incorporating evaluation of relevant literature and
- the presentation of the work to communicate their findings in oral presentation and in the subsequent discussion. The paper must be submitted in writing.

(8) As a prerequisite for the admission to an exam of a module exam related provisions can be requested. Failed module exam related provisions can be repeated. The rules for the provision of module exam related provisions in type and volume are defined by the module related lecturer at the beginning of the module.

(9) Exams can be executed by examining student groups. The contribution of each individual student shall meet the examination requirements. The individual part of the students has to be identifiable based on the specification of sections and page numbers or other objective criteria and shall be weighted individually.

(10) The type and scope of exams for each module are shown in the test schedule or the module handbook. The type of exams provided in this document (written or oral) could be altered under the following conditions:

- a) If for a written exam 20 or less students are registered or expected, the examination regulations board approves at written request of the examiner to enable the execution of the exam in oral form. This permit is valid for one exam only.
- b) If for an oral exam 20 or more students are registered or expected, the examination regulations board approves at written request of the examiner to enable the execution of the exam in written form. This permit is valid for one exam only.

If the examination regulations board approved a change in the type of the exam, the students concerned must be informed immediately.

(11) Auxiliaries useable in a written test are under examiner decision. A list of approved means will be given out simultaneously with the announcement of the examination date. The criteria of evaluation should be made public. The results of an exam are usually notified to students not later than 4 to 6 weeks after the exam.

(12) For module examinations executed by other faculties the rules of the respective faculties apply.

§ 15

Protection provisions, disadvantage compensation

(1) If students can prove that due to long-term or permanent illness or handicap is not in a position to take the exam wholly or partly in the prescribed form through a medical certificate or a handicapped ID the examination regulations board can provide them with the possibility to get the necessary examinations in a different way if this is necessary to enable equal opportunities.

For this purpose time durations can be prolonged and types of exams changed. Compensations have to be requested from the examination regulations board in writing. The request should be filed no later than the admission to course-related exams.

(2) The protection provisions in accordance with the Act on the Payment of Child Raising Benefit and Child Raising Leave (Bundeserziehungsgeldgesetzes) and in accordance with the terms of the law on the protection of expectant and nursing mothers (Mutterschutzgesetz) are enacted within these regulations, in particular in the calculation of deadlines to be considered appropriately and to allow their use. Students who have been on exemption because of family obligations may pass exams voluntarily during the exemption. Based on written request to the examination regulations board a participation on before failed exams during exemption is possible.

§ 16

Public oral examinations

Students in this degree program, having the respective exam not successfully completed, could be admitted at oral examinations as a listener, if they are not even registered to this exam. This does not include the discussion and announcement of results to students. At the request of a student to be tested listeners by clause 1 are excluded.

§ 17

Admission to course-related exams

(1) Students can be accepted to course-related exams if they are enrolled in this masters program at the Otto-von-Guericke university listed in § 1.

(2) Students of this course apply for admission to the course-related exams and exam repetitions within the period and in the specified form defined by the examination regulations board. Failures to meet the deadline for registering lead to the not admission to the exam unless the examination regulations board upon written request of the student decides otherwise.

(3) The request for admission has to be accompanied by all documents certifying the validity of the admission requirements, unless appropriate documentations are still available at the Otto-von-Guericke-University. In addition names for examinees can be suggested.

(4) The application can be withdrawn no later than one week prior to the exam date. In this case the admission accordingly clause 1 and 2 must be requested for at a later examination date again.

(5) The final decision on admission is made by the examination regulations board. It has to be refused if:

1. admission requirements are not met or
2. documents are incomplete or
3. exams are "failed finally" or have been defined as "failed finally".

§ 18

Evaluation of examination results and definition of module marks

(1) The individual results of an exam will be assessed by the respective examiner. For written examinations, the assessment will be announced no later than 4 to 6 weeks after each examination.

(2) For the evaluation of the examination results of the following marks are used:

Mark

1	sehr gut (very good)	excellent performance
2	gut (good)	performance that is significantly above the average requirements
3	befriedigend (satisfactory)	performances along the average requirements
4	ausreichend (sufficient)	performance that passes, despite of lack of minor requirements
5	nicht ausreichend (not sufficient)	performance that is not sufficient because of the lack of significant requirements

For more differentiated assessment of the examination results as marks intermediate values with a scaling by 0.3 steps in both directions can be applied in addition to whole numbers. The overall grades 0.7, 4.3, 4.7 and 5, 3 are excluded.

(3) An examination is passed if it was at least "ausreichend". If the exam is assessed by several examiners or consists of several examination parts, it is passed if all reviews are at least "ausreichend". In this case, the mark of the exam is defined as the arithmetic average of all examination results of the examiners truncated after the first decimal digit following the placement in the following table:

Upper limit		>1,15	>1,50	>1,85	>2,15	>2,50	>2,85	>3,15	>3,50	>3,85
Mark	1,0	1,3	1,7	2,0	2,3	2,7	3,0	3,3	3,7	4,0
Lower limit	≤1,15	≤1,50	≤1,85	≤2,15	≤2,50	≤2,85	≤3,15	≤3,50	≤3,85	≤4,0

(4) In case of the definition of a grade based on the arithmetic average only the first decimal after the decimal point are considered. All other digits will be cut off without rounding. The grade to a mark is:

At an average mark	Grade to a mark
up to 1.5	sehr gut (very good)

from 1.6 to 2.5	gut (good)
from 2.6 to 3.5	befriedigend (satisfactory)
from 3.6 to 4.0	ausreichend (sufficient)
from 4.1 downwards	nicht ausreichend (not sufficient)

§ 19

Repetition of exams

(1) Exams that were not passed or have been defined as not passed can be repeated once. A second repetition is permitted for a maximum of two exams.

(2) A second repetition of a course-related examination has to be requested in writing by the student within a period of 6 weeks after notification of the not passed result of the first repetition of the course-related test at the examination regulations board and justified in the written request.

(3) Repetitions of not passed exams have to be executed earliest 6 weeks and latest 15 Month after the not passed exam, unless the student has been granted an duration extension based on reasons, he or she is not responsible for. Therefore, a new request is necessary. In case of study interruption and in other justified cases the examination regulations board has to define mandatory specifications for the execution of the necessary exams. In case of a missed repetition period § 17 (2) shall apply. For the evaluation § 18 shall apply accordingly.

(4) Unsuccessful attempts to pass an exam in the selected mater program undertaken at a university located in the scope of the Basic Law of Germany should be deducted on the number of repeat options.

(5) In the course of the master program one passed exam can be repeated. The best of the reached marks shall apply.

In case of making use of clause (1) one of the two second repetitions can be repeated a third time of one first repletion can be repeated a second time (leading to three second repetitions) as substitute.

Excluded from this rule are the master thesis and the master colloquium as well as module exams which are failed following irregular behaviour (especially following attempt of deception).

To make use of this rule a written request has to be provided to the examination regulations board after provision of examination results.

§ 20

Additional exams

(1) Students are authorised to execute exams that are not related to defined modules of the compulsory and free elective are of the study program.

(2) The result of additional exams is recorded in the final certificate of other certifications based on student request. In this case, the calculation of average marks and determining the overall grade is made without consideration of the additional exams.

IV Master's degree

§ 21

Admission for Master's Thesis, Issue of topic

- (1) The master thesis is only open to those students enrolled at Otto-von-Guericke-University within the study program named in § 1 and reached at least 45 CP within the compulsory, compulsory chosen, and free elective parts of the study program as well as has finished the project with 5 CP.
- (2) The master thesis shall prove that students are able to solve a scientific problem independently within a given period with scientific methods. The topic and the aims of the thesis shall meet the exam aims and processing time. The type of assigned task and the task definition shall be defined by the provision of topic and aim of the master thesis.
- (3) Students should be enabled to provide suggestions for topic and aims of the thesis. The proposal of the student should be met wherever possible. This does not establish any legal claims. The head of the examination board is responsible for the provision of the master thesis topic and aim to the students in reasonable time.
- (4) The completion period of the master's thesis for 5 month starts with the moment of the provision of the master thesis topic and aim. It shall be recorded at the examination office of the Faculty. With the issuing of the master thesis topic and aim the first and second examiner of the thesis are defined. The first examiner shall have issued the thesis topic and aim. Examiners shall be authorised examiners following § 12 clause 1. At least one examiner shall be a university teacher.
- (5) A withdrawal of the notification to the master thesis is possible only once and within the first month of the completion time.
- (6) The master thesis is issued by an authorised examiner following § 12 clause 1. This person must be a member of the faculty the study programs belongs to. The topic shall be confirmed by a university professor. In exceptional cases the topic may be issued by an authorised person who does not fulfil this requirement based on approval of the examination regulations board. In this case the second examiner shall be a member of the faculty.
- (7) The Master's thesis shall be written in English. It may have the form of a joint paper of a student group. The part of the individual student shall be identifiable and evaluate-able on the basis of section or page naming or further objective criteria meeting the requirements of paragraph 1. The group is limited by up to 3 students.

§ 22

Issue of topic of the thesis

- (1) The completion period of the master's thesis to its submission shall be up to 5 months. An exception to this deadline is the proven case of illness of the student. In this case, the processing time shall be shifted by the duration of the disease, but no more than 4 weeks. An exam cancelled due to prolonged illness may not be counted as repetition case.
- (2) A reasonable request to transfer deadlines by a maximum of 6 weeks shall be provided to examination regulations board by the student in written form in a timely manner not later than one week before the original deadline. It has to be accompanied by a statement of the first examiner.
- (3) Upon submission of the thesis, students have to confirm in writing that there work has been executed independently and under use of no other than the stated sources and aids - a joint project with the appropriately marked proportion of the work.
- (4) The Master thesis must be submitted in time in duplicate at the examination office following the design guidelines of bachelor and master thesis provided by faculty of mechanical engineering, the submission shall be recorded. If the thesis is not submitted on time, it is marked as „nicht ausreichend“ ("not sufficient").

§ 23

Colloquium and evaluation

- (1) The master thesis shall be reviewed and evaluated by the examiners within four weeks after submission. § 18 shall apply accordingly.
- (2) In the colloquium students have to prove that they are able to defend their work results from the processing of a scientific field in a discussion.
- (3) Condition for admission to the symposium are the successfully passing of all module examinations following study and examination regulations and the assessment of the thesis by two examiners with at least "ausreichend" ("sufficient"). If there are module examinations outstanding at the moment of master's thesis submission a compulsory notification for these examinations will take place to the next possible moment except the examination regulations board decides otherwise on a written request of the student.
- (4) The colloquium will be held by the examiners of the thesis on an individual or group. The topic of the thesis and the related problems and results shall be the content of the colloquium in a maximal 20 minutes lecture and then related questions shall be answered. In a group examination the time is reduced to a maximum of 15 minutes per student. The total duration of the colloquium is for all students usually 45 minutes but not more than 60 minutes.
- (5) The examiners for the colloquium are defined by the examination regulations board. At least one of the examiners shall be one of the examiners of the thesis.
- (6) The mark of the thesis is calculated on the basis of the arithmetic mean of the mark of the two examiners reports and the mark of the colloquium. The thesis has not been passed, when one of the marks "failed" states.
- (7) With successfully passing the master's thesis 30 CP will be awarded with the colloquium.

§ 24

Repetition of thesis and colloquium for thesis

- (1) The Master's thesis can be repeated only once with a new topic, if it is evaluated „nicht ausreichend" ("not sufficient") or considered as „nicht ausreichend" ("not sufficient").
- (2) A return of the topic of the repetition thesis is only possible if this option is not already used at the first case.
- (3) The new topic of the thesis is provided in reasonable time, normally issued within three months.
- (4) The repetition of the passed Master's thesis is excluded.
- (5) The Colloquium on the thesis can be repeated only once, if it is evaluated „nicht ausreichend" ("not sufficient"). The repetition must be performed within 4 weeks.
- (6) The repetition of a passed colloquium to the master thesis is excluded.

§ 25

Overall result of Master's exam

- (1) The Master's exam is passed if all course-related exams of compulsory, compulsory chosen, and free elective modules, the project and the master's thesis with the colloquium were at least "sufficient" and the required 90 CP are documented.
- (2) The overall grade of the degree is calculated by weighting the average mark of the module exams (following the CPs of the modules) $\frac{2}{3}$ and the mark of the thesis with the colloquium $\frac{1}{3}$. When calculating the overall grade the sub-values are used with two digits after the decimal point were for the final grade only one digit is taken.

(3) If the average of the resulting overall grade is better than 1.3, the predicate „mit Auszeichnung bestanden“ ("with distinction") is given. Otherwise, § 18 clause 5 holds.

(4) The master's degree is finally not passed, when a study accompanying exam or the thesis with the Colloquium has been evaluated with „nicht ausreichend“ ("not sufficient") or it is seen as „nicht ausreichend“ ("not sufficient") and no further possibility for repetition is given.

§ 26

Certificates

(1) The passed Master's degree shall be certified immediately if possible within four weeks. The certificate bears the date of the day on which the last examination was taken. It is to be signed by the Chairman of the examination regulations board of the Faculty and to bear the seal of the Otto-von-Guericke-University.

(2) If a candidate achieves the Master's degree, he obtained a certificate of the results. In the certificate of the marks of the modules, the result of the thesis, the final grade and the ECTS mark will be recorded. In addition, the certificate contains of the topic of the thesis and the results of the tests of additional modules following candidate written request.

(3) The Masters certificate is accompanied by a Diploma Supplement.

(4) If the master's degree is not passed or is considered as not passed, the examination regulations board will inform the student in writing. This letter will also contain information about repetition possibilities of examinations.

(5) Students who leave the university or change the program will be issued upon request a certificate, which contains the passed exams and their evaluation. It points out the missing exams and furthermore that exams are not passed or finally not passed.

§ 27

Deed

(1) Together with the certificate students receive the deed with the date of the certificate. The award of a Masters degree will be certified within.

(2) The deed is signed by the Dean of the Faculty of Mechanical Engineering and by the chairperson of the examination regulations board and bears the seal of the Otto-von-Guericke-University.

V. Final provisions

§ 28

Access to examination files

(1) Upon written request to the examination regulations board of the faculty of mechanical engineering after each module exam and Master exam students will be admitted to look into the written examination papers, the related reviews of the examiner and the report until one year after the related exam. The chairperson of the examination regulations board shall determine place and time of file opening.

(2) Students are able to request a file opening for its student and examination files. The request has to be given in writing to the examination regulations board of the faculty of mechanical engineering not later than one year after passing the study program. The chairperson of the examination regulations board shall determine place and time of file opening.

§ 29

Absence, resignation, deception, breach of regulations

(1) A course-related exam is marked as „nicht ausreichend“ ("not sufficient") if the student without good reason:

- a) does not appear for a mandatory exam,
- b) resigns from an exam after starting it,
- c) not executes the exam or its repetition the fixed period.

(2) The reasons for a resignation or an absence shall be notified immediately to the examination regulations board in writing and to show evidence. If this is not possible the exam has to be marked as „nicht ausreichend“ ("not sufficient"). In case of illness a medical certificate must be presented. If the reasons for a resignation or an absence are accepted the exam has to be executed at the next possible point in time if not decided otherwise by the examination regulations board.

(3) Students' attempts to influence the outcome of an exam by deception or using unauthorized means, the exam is graded „nicht ausreichend“ ("not sufficient"). To disturb the exam may lead to an exclusion from the execution of the exam by the examiner or the supervisor of the exam. In this case, the exam is graded „nicht ausreichend“ ("not sufficient"). In serious cases, the examination regulations board shall exclude the student from any further exams.

(4) If the deadline for the provision of exam work results is exceeded by the student following reasons accounted to the student the exam is graded „nicht ausreichend“ ("not sufficient"). Claus 2 shall apply accordingly.

§ 30

Invalidity of exams

(1) If a student has deceived in an exam and this fact becomes known only after the issuing of the certificate, then the examination regulations board can define the exam as „nicht ausreichend“ ("not sufficient") in whole or in part.

(2) If the requirements for admission to an exam were not satisfied without an intention of a delusion about this and this fact is aware only after the issuing of the certificate, these deficiencies will be healed by passing the examination. Students who have obtained admission deliberately in error, the examination regulations board will decide in accordance with the laws of unlawful administrative acts on the fact.

(3) The students concerned shall be given the opportunity to discuss the matter in front of the examination regulations board before a decision is made.

(4) The incorrect certificate shall be withdrawn and replaced if necessary with a new certificate in accordance with § 26 paragraph 5. The Master certificate shall be withdrawn if the exam was defined as „nicht ausreichend“ ("not sufficient") based on a deception. A decision under clause 1 and 2 shall be excluded after a period of five years from the date of the certificate.

§ 31

Decisions, opposition proceedings

(1) All decisions made following this regulations and constituting an administrative act shall be justified in writing, accompanied by a instructions about a student's available legal remedies and published following § 41 VwVfG LSA. Oppositions against decisions shall be send to the examination regulations board within one month of receipt of the decision notification.

(2) Decisions about an opposition shall be taken by the examination regulations board. In case of an opposition against an exam evaluation the examination regulations board leads the opposition to the responsible examiner or examiners for approval. If the evaluation is altered following the opposition, the examination regulations board will clear the opposition. Otherwise, the examination regulations board will check the decision only on whether

- a) the exam procedure has been performed properly
- b) the examiner has based its decision on a factual misconception,
- c) general assessment principles have been respected, and
- d) the examiner has been guided by irrelevant deliberations.

§ 32

Withdrawal of academic degree

The withdrawal of the Master degree is regulated following §20 of the Higher Education Act of Saxony–Anhalt.

§ 33

Public notices of the Examination Regulations Board

(1) Decisions and other actions following this regulations especially the admission to exams, the refusal of admission, registration and examination dates and periods as well as exam results are announced in university local public manner in the usual way. Data protection rules must be observed.

§ 34

Commencement

(1) This study and examination regulations come into effect after its publication in the public notice of the Otto-von-Guericke-University.

(2) Issued in accordance with the resolutions of the Faculty of Mechanical Engineering from February 1st 2017 and the Senate of the Otto-von-Guericke-University from February 15th 2017.

Magdeburg, February 2017

Prof. Dr.-Ing. habil. Dr. h.c. Jens Strackeljan

Rector

Otto-von-Guericke-University Magdeburg

Appendixes: Studies and Exam planning

Studies and Exam planning of master program System Engineering for Manufacturing

	Volume			1 st Semester Winter semester			2 nd Semester Summer semester			3 rd Semester Winter semester			
	V	S	P	CP	LN	PL	CP	LN	PL	CP	LN	PL	
Compulsory area	Σ 25 CP												
Mechanics of Materials	2	2					5		M				
Systems Engineering for Manufacturing Systems	2	1		5		K							
Material handling Systems	2	1		5		K							
Modelling and Simulation of Mechatronic Systems	1	1	1	5		M							
Material Selection	2	1					5		K				
Compulsory chosen area	Σ 20 CP												
Scientific area 1	Module 1			5		K,M							
	Module 2						5		K,M				
Scientific area 2	Module 1			5		K,M							
	Module 2						5		K,M				
Free elective area	Σ 10 CP												
Free elective module 1				5		K,M							
Free elective module 2							5		K,M				
Project area	Σ 5 CP												
team or individual project			5				5	W	R				
Master thesis	Σ 30 CP												
Master thesis incl. colloquium											30	W	KO
Master program in total	Σ 90 CP												
				30			30				30		

LN – type of result provision
W – scientific project
R – Paper work
KO – Colloquium

PL – type of exam
M – oral examination
K – written examination