

Examination Regulations for the Master's course

Systems Engineering and Engineering Management

At South Westphalia University of Applied Sciences,
Campus Soest

Preamble

In accordance with Section 2 paragraph 4 and Section 64 paragraph 1 of the Law on the Universities of North-Rhine Westphalia (Higher Education Act – HG) of 16 September 2014 (GV.NRW.P. 547) South Westphalia University of Applied Sciences has passed the following examination regulations.

NB: For any legal proceedings, only the German version has legal validity.

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§ 1 Area of application

- (1) These examination regulations apply to the Master's course 'Systems Engineering and Engineering Management' of the Faculty of Electrical Engineering of the South Westphalia University of Applied Sciences, Campus Soest, referred to as 'the university' in the following pages.
- (2) These examination regulations may be amended by study regulations for the Master's course „ Systems Engineering and Engineering Management ', controlling the scope and structure of the course, taking into account technical and didactical developments as well as requirements of practice.

§ 2 Objectives

- (1) The goal of the Master's course is to apply and strengthen the competencies received in the engineering bachelor degree courses. The graduates of the Master's course in Systems Engineering and Engineering Management will be enabled to analyse, describe and solve problems in electrical or mechanical engineering or mechatronics, using academic research methods and practical skills. The Master's course is rooted in academic research and focuses on academic specialist seminars, in which students are encouraged to do independent academic research using the existing and newly acquired skills.
- (2) In addition to their specialist knowledge, graduates will acquire social competence, cooperation, communication and teamwork abilities as well as entrepreneurship in order to prepare them for an international workplace in their chosen industry. The Master's degree provides a qualification based on academic research and practical training. The Master's examination shall determine whether the graduate has acquired the specialized knowledge necessary for academic research and is able to work independently and successfully on the basis of scientific knowledge and methods.
- (3) The Master's examination shall determine whether the student has acquired the specialized knowledge necessary for academic activity and is able to work independently and successfully on the basis of scientific knowledge and methods. Successful completion of the Master's course gives admission to PhD programs.

§ 3 Entrance qualification for the Master's course

- (1) (1) The qualification for the study is proven by:
 - a) Successful completion of a Bachelor degree course of at least seven semesters (3 years and six months) , with the overall grade of "Good" or ECTS grade of A or B or successful completion of a German Diplomstudiengang in the area of electrical or mechanical engineering or mechatronics or a similar degree course with modules in engineering or informatics;
or
 - b) Successful completion of a Bachelor degree course of at least six semesters (3 years) , with the overall grade of "Good" or ECTS grade of A or B followed by an additional qualification period of six months, during which 30 ECTS credits must be obtained in bachelor degree courses at the South Westphalia University of Applied Sciences. The specific modules for this alternative qualification period are set by the examination board. If this requirement is not met within the stipulated period, the student's enrolment in the degree course will be revoked.
 - c) Good knowledge of the English language in speech and writing.
- (2) The English language prerequisite is proven by a TOEFL Test with at least 575 points for the written test or 232 in the computer test or 90 points in the online test version; or by an IELTS test certificate with at least a grade of 6.5.

In all other cases, proof is to be provided in accordance with Section 4.

§ 4 Admissions Procedure

- (1) The application must be submitted to the university in writing within the period specified in the web information pages of the South Westphalia University of Applied Sciences along with
 - a) The certificate of having successfully completed the diploma or Bachelor's examination,
 - b) The certificate of a language test according to § 3 (2).
 - c) A statement, whether a Master's examination in the same field of studies has been permanently failed.
- (2) In cases where the aptitude of the English language cannot be proven according to § 3 (2), the applicant will be invited to an oral examination to verify his/her aptitude for the course. The written invitation to this examination is sent to the applicant at least one week prior to the examination date. The examination is conducted and assessed by two professors of either the faculty of electrical engineering or the faculty of mechanical engineering. The examiners are directly appointed by the chair of the examination board. The duration of the examination is up to 45 minutes.

- (3) The result of the oral examination is communicated to the applicant in writing. In case of a rejection, the decision is to be explained and furnished to the applicant with legal advice on how to appeal. In case of a rejection, a new application is possible at a later date. A third application is not possible.

§ 5 Structure of the Master's degree course.

- (1) The course has a regular duration of three semesters. The overall credit volume is 90 ECTS credits. The modules and credit specifications are provided in appendix 1. The curriculum is arranged so that the degree can be completed within the regular duration. The examination procedures are to be designed in such a way that the statutory periods of maternity and parental leave are possible. Periods of leave due to the need to care for a spouse, a registered life-partner or any member of the immediate family or family by marriage will be granted. For students suffering from chronic illness or from a disability according to Section 2 paragraph 1 of The German Civil Law (SGB) IX, the examination committee shall interpret and arrange the examination conditions in such a way that the candidates are not disadvantaged. This will be examined and set for each individual candidate.
- (2) Students can choose between three pathways.
- Pathway Mechatronic Systems
 - Pathway Mechanical Systems
 - Pathway Electronic Systems
- (3) Students have to make this choice at their enrollment. A later change of pathway may be granted by the examinations committee on written application by the student. A change of pathway after the beginning of the second semester of the Master's course is not possible.
- (4) The teaching consists of seminars, tutorials and practical laboratory sessions. In seminars, students are taught key subject specific skills and are taught to research chosen topics independently. Tutorials are designed to revise and reinforce key aspects of seminars, by using case studies or examples. Practical Lab Sessions allow the students to deepen their subject specific knowledge by conducting practical experiments.
- (5) All classes and examinations will be conducted in English.
- (6) The Master's course can be started in either the Winter or the Summer Semester.

§ 6 Examination Board

- (1) An examination board is to be formed to organize the examinations and deal with the tasks for which it is responsible by virtue of these Examination Regulations; the responsibility of the Dean remains unaffected according to Section 27 Paragraph 1 sent. 2 of the German Universities and College Act (§ 27 Abs. 1 Satz 2 HG). The examination board consists of:
- four members of the professoriate, one of them will be the chairperson and one the deputy chair of the examination board.
 - a member of the academic staff (lecturers or academic staff) according to Section 11 Paragraph 1 no. 2 German Universities and Collage Act (§ 11 Abs. 1 Nr. 2 HG) and
 - Two members of the student body.
- (2) The members of the Examination Board must be either lecturers in the Master's course, or must have successfully completed the course or must be currently enrolled in the course. The members of the examination board are elected by the Fachbereichsrat [Faculty Council]. The other members elected by the faculty council shall have replacements who will also be elected by the faculty council. The chair and deputy chair will be elected of the professoriate. The term of office for those members who are employees of the University shall be four years. The term for student members will be one year. Members may be re-elected. If one of the members leaves the university, there will be a by-election.
- (3) The examination board shall ensure that the provisions of the Examination Regulations are met and ensure the correct procedure of the examinations. It is furthermore responsible for appeals against decisions made in the examination process. In addition, the Examination Board must report the examination results and makes decisions on relevant aspects of the examinations.
- (4) The Examination Board can transfer the execution of its duties for all normal cases to the chair. Appeals are excluded from this.
- (5) The examination board shall constitute a quorum, if the chair or deputy chair and two other members of the professoriate and at least one other voting member are present. Decisions are taken by simple majority vote. In case of a tie, the vote of the chair shall be decisive, or in his/her absence the vote of his/her deputy. The student members in the examination board do not participate in the academic decisions, particularly in the validation or other assessment of study and examination results or in the appointment of examiners and assessors. Student members of the examination board shall not participate in the consultation and resolutions on matters which concern the determination of examination questions of their own examination.

- (6) The members of the examination board have the right to attend examinations, with the exception of the student members who are scheduled to have their own examination on the same day.
- (7) The members of the examination board and their replacements are subject to official secrecy. If they are not employed in the public sector, they are committed to confidentiality by the chair of the examination board.
- (8) Incriminating decisions of the examination board are to be handed to the concerned student immediately in written form with reasons provided. The student has the right to be heard beforehand. Section 2 Paragraph 3 No. 3 of the Administrative Procedures Act for the state of North-Rhine Westphalia remains unaffected, in particular the exception of the duty of hearing and justification for assessment of scientific and artistic nature.

§ 7 Examiners and assessors

- (1) The examination board shall appoint the examiners and assessors. Only persons who have at least the corresponding Master's degree or an equivalent degree (at least a university degree or have obtained a comparable qualification) may be appointed. Examiners must have taught on their own authority in the subject in question, unless compelling reasons justify an exception. If more than one examiner is to be appointed, at least one of the examiners must have taught in the subject being examined. The examiners perform the examinations independently and on their own authority.
- (2) The chair of the examination board shall ensure that the candidates are informed of the names of the examiners no later than two weeks before the start of the examination. An announcement posted on the notice board or on the internet page of the Faculty of Electrical Engineering is sufficient.
- (3) The candidate may make suggestions regarding the supervision of the Master's Thesis. The examination board shall ensure that all pursuant obligations are evenly distributed among the examiners.
- (4) Examiners and assessors are subject to official secrecy. If they are not employed in the public sector, they are committed to confidentiality by the chair of the examination board.

§ 8 Procedure for Recognition of Previous Examinations

- (1) Students who have completed study or exam performances in other degree courses and/or at other universities and who wish to have these accredited for their current course of studies, can apply to have this recognized by the university. Accreditation will be granted, provided that the previously completed exams are comparable to those at South Westphalia University of Applied Sciences.
- (2) It is the responsibility of the applicant to ensure that all necessary documentation is provided to the examination board. The onus of proof that the application for accreditation in accordance with paragraph 1 cannot be granted lies with the examination board.
- (3) Decisions on accreditations as stipulated in paragraph 1 must be taken within three months.
- (4) After granting the student's application, the placement in a higher semester will be calculated based on the ECTS credits the student has already completed as part of the overall ECTS credits of the course. If the decimal point of the calculated semester allocation is below five, the student will be allocated to the lower semester, if above five, the student will be allocated to the higher semester.
- (5) If an application for allocation into a higher semester has been rejected, the applicant can ask the office of the president of the university for a reexamination of the decision. The office of the president will then make a recommendation to the examination board on how to proceed with the application.
- (6) In cases where the German federal government has signed agreements with other nations with regard to equivalence of modules (equivalence agreement) that support the claims of applicants even if the modules are not deemed equivalent according to paragraph 1, the equivalence agreement has precedence.
- (7) Agreements on the accreditation of examination results in a 'Learning Agreement' of the ECTS system are binding.
- (8) On application by the student, other types of qualifications and skills can also be taken into account by the university, if these are deemed equivalent in quality to the examinations they replace. Consideration of qualifications, however, is limited to a maximum of half of the ECTS credit points necessary for the degree course.
- (9) In case of doubt, the examination board decides on the recognition of credits according to the respective paragraphs 1 to 8 after hearing the examiners of the subject in question.

- (10) The provisions of Paragraph 1 and 4 apply to the assessment within the placement examination pursuant to the Regulation of Entrance Examination and Placement for the Study Courses at South Westphalia University of Applied Sciences. Further details about the type, form and scope of the placement examination are stipulated by the Regulation of Entrance Examination and Placement for the Study Courses at South Westphalia University of Applied Sciences.

§ 9 Assessment of examination results, ECTS (credit points)

- (1) Examination results are assessed differentially with grades. The individual examination results shall be awarded by the responsible examiner.
- (2) If several examiners are involved in an exam, they jointly grade the overall examination result, unless other provisions below are relevant. If the examiners do not agree on a grade, the final grade shall be composed of the arithmetic mean of the individual grades.
- (3) For the assessment of the examination results, the following grades are given:

1.0; 1.3	=	Very good	=	Outstanding work;
1.7; 2.0; 2.3	=	Good	=	Performance substantially above average requirements;
2.7; 3.0; 3.3	=	Fair	=	Performance meets the average requirements;
3.7; 4.0	=	Satisfactory	=	Performance which, despite shortcomings, meets the average requirements;
5.0	=	Fail	=	Performance that does not meet the requirements due to significant deficiencies.

- (4) For every examination result that was passed with at least a „satisfactory’ grade, ECTS credit points are awarded in accordance with Appendix 1 and 2.
- (5) When composing grades out of individual grades, only the first digit after the decimal point is taken into account; all further digits are dropped without rounding.
- (6) The grade assessment is as follows:

1.0 to 1.5	very good
1.6 to 2.5	good
2.6 to 3.5	fair
3.6 to 4.0	satisfactory
Above 4.0	fail

§ 10 Retaking examinations

- (1) An examination result that was graded ‘fail’, as part of a module result or the grade of the master’s project or the colloquium can be retaken once. If a project or a paper is retaken, this must be repeated with a new topic.
- (2) Repeat examinations must be taken at the next possible examination date. An extension can be granted on application.

1. The extension for students caring for a child is three semesters per child, in accordance with Section 5 of the BAFöG Act.

2. The extension for serving as a student representative in committees of any body of the student administration can be up to four semesters.

3. The extension for acting as officer for equal opportunities can be up to four semesters.

4. The extension for students suffering from a disability or chronic illness will correspond to the additional time required due to the above condition.

5. The extension for students caring for close family or relatives can be up to three semesters.

The examination board shall decide on the application for an extension.

If the period set for retaking an examination has passed and the student has not taken the repeat examination, there are no more examination opportunities for the students, unless there are extenuating circumstances according to § 11 (2).

- (3) If an examination has been graded "fail" after a written examination, the student can opt for a supplementary oral examination. This supplementary oral examination can be used for two module examinations at the most. The supplementary oral examination will take place immediately after the candidate has been informed of the "fail" grade. The result of the supplementary oral examination will be either 4.0 (satisfactory) or 5.0 (fail). For this supplementary examination, the normal regulations for oral examinations according to § 16 are applicable. In cases stipulated by § 11 (missed deadline, leaving an examination or cheating by the candidate) paragraphs 1 to 5 do not apply.
- (4) If a repeat examination has been graded 'fail', this module has been permanently failed.
- (5) If a module examination or the Master's Thesis has been irrevocably failed, then the Master's examination is permanently failed.

§ 11 Non-attendance, withdrawal, cheating and infringement of regulations

- (1) An examination is failed, if a candidate fails to turn up for an examination without attested reason, decides to leave the examination after having started it or does not submit a project within the set deadline.
- (2) The cogent reasons for withdrawal after the deadline or the non-attendance of an examination must be reported to the examination board immediately (within 3 working days of the examination) in writing and must be made credible. In case of illness, the candidate shall provide a medical certificate showing the physical incapability to participate that was issued at the latest on the date of the examination. If the reasons are accepted by the examination board, the examination is regarded as 'not taken'.
- (3) If the candidate tries to influence the result of his/her examination by cheating or using unauthorized aids, the examination will be graded as 'fail' (5.0). The decision may depend on the severity of the infringement. The result of a repeat examination that was failed due to cheating can only be either 4.0 (satisfactory) or 5.0 (failed).
- (4) The decision of the examination board must be communicated to the candidate in writing, the decision is to be explained and furnished to the candidate with legal advice on how to appeal.

§ 12 Aim, scope and form of examination

- (1) A module examination is a course-related examination in an individual module, in accordance with the examination regulations, usually in the form of an examination paper (§ 15), an oral examination (§ 16), a home assignment or project work (§ 17) or a combined form of examinations (§ 18).
- (2) The aim of the module examinations is to determine whether the students have mastered the content and methods in the main contexts of the examination subjects and are able to apply the gained knowledge and skills independently.
- (3) Before the beginning of the teaching period, the examination board, in agreement with the examiners, determines the form and date of the individual module examinations as well as the completion time - in case of written exams - uniformly and binding for all candidates. This will be announced on the notice board or on the website of the faculty of Electrical Engineering.
- (4) Results of a module examination may be substituted by an equivalent result of a placement examination in accordance with the Code concerning student placement examinations for courses at South Westphalia University of Applied Sciences (Ordnung zur Regelung der Einstufungsprüfung für die Studiengänge der Fachhochschule Südwestfalen).
- (5) A module examination is deemed to have been passed when it has been assessed with at least a „satisfactory" grade.

§ 13 Admission to the module examinations

- (1) The application for admission to the module examinations is generally submitted by means of the online registration method. In cases of technical problems or a previous announcement to that effect, registration for admission to examinations must be made in writing via the Student Service Office. The registration deadlines are set by the examination board.
- (2) Applications for permission to take part in a module examination must, if demanded, include the following documents unless they have been submitted earlier:
 - a) A statement about prior attempts to take the module examination,

- b) A statement about prior attempts to take a Master's examination in the same degree course,
 - c) For oral examinations, a statement whether the candidate wishes to exclude an audience from his/ her oral examination.
- (3) The application for admission to a module examination is binding. As a general rule, it can be withdrawn through the official online procedure without stating reasons and without being counted as an attempt as long as the following time limits are adhered to:
- a) For a module examination in form of an examination paper (Section 15), or an oral examination (Section 16), one week prior to the examination date.
 - b) For a module examination in form of a home assignment or project work (Section 17) or a combination of examinations (Section 18), this period expires two weeks after the deadline for the application to register. For home assignment projects, a new topic may be requested once.

In cases of technical problems or a previous announcement to that effect, the deregistration for examinations must be made in writing via the Student Service Office.

- (4) Admission to the module examination may only be granted to those who are enrolled at the South Westphalia University of Applied Sciences or hold the status of a visiting student.
- (5) Admission to and examination will not be granted, if
- a) The conditions referred to in paragraph 4 are not met or
 - b) The documents are incomplete and are not complemented by the date set by the examination board or
 - c) The candidate has permanently failed this examination in a Master's course Systems Engineering and Engineering Management at a University of Applied Sciences or in a Master's course that has close similarities to this course within the jurisdiction of the German Basic Law.
- (6) Registration for an examination must take place at the latest three semesters after the examination was due to be taken according to the syllabus. This deadline can be extended in accordance with § 10 (2).
- (7) The examination board shall decide on the admission to examinations.

§ 14 Procedure for module examinations

- (1) The time periods for the module examinations in the form of examination papers or oral examinations shall be determined by the examination board and be announced at the beginning of the semester or at the end of the previous semester.
- (2) The examination date will be announced well in advance, at least two weeks prior to the examination.
- (3) Upon request by the examiner or supervising person, the candidate has to prove his/ her identity by submitting an official photo identification card.
- (4) If a candidate can make a credible claim that he/ she is unable to undergo the examination in the scheduled form, in whole or in part, due to a chronic illness or disability according to Section 2 Paragraph 1 Code of Social law vol. IX and provides a medical certificate to that effect, the chair of the examination board may permit the provision of an equivalent examination performance within an extended time or in a different form; the same applies to study achievements. In such decisions, the representative for people with disabilities has to be involved.
- (5) The candidate shall be notified no later than six weeks after the examination about the assessment of the module.

§ 15 Written examinations

- (1) Examination papers are written examinations that are monitored by invigilators.
- (2) In an examination paper the students must demonstrate that they recognize the key issues of the subject and are able to analyse specific questions within this overall context and solve problems in a limited period of time with the approved means. Furthermore the examination paper shall ascertain whether the candidates have the necessary knowledge in the specific area.
- (3) The examiners decide upon the admission of auxiliary material to be used in the examination paper. A list of approved aids shall be announced along with the examination date.
- (4) The duration of written examinations is between 60 and 120 minutes.
- (5) The tasks in the written examination will usually be specified by one examiner. In justified cases, especially when several subjects are assessed jointly in a single examination, the tasks may be specified by more than one examiner. In this case, the examiners determine the weighting of the individual parts prior to the examination. Regardless of the parts and their weighting, all examiners assess the entire examination paper. Notwithstanding this, the examination board can determine that the examiners only assess the part of the examination that corresponds to their area of expertise, due to the specialist nature of a subject.

- (6) Module Examinations that are written examination papers are normally graded by only one examiner. Examination papers, where the result will determine whether the student is allowed to continue the course or not, must be assessed by two examiners. If the examiners do not agree on a grade for an examination paper, the final grade shall be composed of the arithmetic mean of the individual grades. If a student has been graded with 'satisfactory' by one examiner and with 'fail' by another examiner in such a way that the arithmetic mean of the examination is 'fail', the examination board shall appoint a third examiner to decide the final grade. In such cases, the grade will be based on the arithmetic mean of the two best grades of the three examiners. If Section 5, paragraph 5 is applied, the assessment of each of the examiners shall be taken into account according to the previously determined weighting.

§ 16 Oral examinations

- (1) The stipulations given in § 15 (2) are equally applicable to oral examinations.
- (2) Within the framework of the oral examination, individual tasks may comprise a written task, as long as the nature of the oral examination is maintained. Furthermore, some topics can be specified by the candidates beforehand and they shall be given the opportunity to express themselves on these without interruption. The oral examination lasts at least 30 minutes but no longer than 45 minutes per candidate.
- (3) Oral examinations are usually assessed by an examiner and a competent assessor as stated in § 7 (1) or by more than one examiner (council examination) as a group examination or as individual examination. All examiners and assessors shall be heard before the final grade is determined.
- (4) The main topic and results of the examination, especially those decisive for the assessment of the grade, shall be recorded in the minutes. Following the examination, the candidate shall be informed immediately and individually of the result.
- (5) Students who are scheduled to take the same examination at a later period are allowed to be present for the examination in accordance with the specific room conditions and the candidate's approval. The admission does not, however, include the consultation and notification of the examination results.

§ 17 Project works

- (1) Project works are written assignments of usually four to twenty pages per ECTS credit point. The projects are written for a specific module and accompany the teaching in that module. Projects may be complemented by a presentation of the project of not more than 45 minutes. The decision whether a presentation of the project is part of the project is specified in the module handbook.
- (2) In addition to the hard copy, a copy in electronic form shall be submitted, so that texts and citations can be submitted to a plagiarism check. The data medium and the format will be determined by the examiner.
- (3) For project assignments § 15 (2), (5) and (6) also apply.
- (4) The examiner decides upon type, length, time frame and form of the written assignment in accordance with paragraph 1.
- (5) The written assignment may also be approved to be performed as a group assignment, if the individual examination performance contributed by each of the students is clearly distinguishable and measurable due to the specification of sections, pages or other unique criteria allowing a clear distinction and the assignment meets the requirements according to paragraph 1 for every candidate.
- (6) The written assignment shall be submitted to the examiner within the allocated period. The deadline is to be announced by notice and usually to be made known to the chair of the examination board after the fixing date, at the latest two weeks before the announced deadline. Upon submitting the written assignment, the students have to declare in writing that their work – or in the event of group work, their individual contribution – was written by themselves and that no sources other than those specified were used and that any cited sources and resources used are referenced appropriately. The submission date of the written assignment has to be placed on record. If the written assignment is sent through postal service the time of posting shall be recorded. If the written assignment is not submitted on time, it shall be assessed as „failed' (5.0).

§ 18 Combined forms of examinations

- (1) In some cases, a module examination can be taken as written assignment and additionally an examination paper or an oral examination.
- (2) The stipulations of § 15, § 16, § 17 also apply.
- (3) A written assignment may be the prerequisite for admission to the relevant examination paper or oral examination.
- (4) The weighting of the individual examination elements is to be announced by the examiner within four weeks after the start of the semester by announcement on the notice board or on the website of the Faculty of Electrical Engineering. A failed partial performance leads to the failure of the entire combined examination.

§ 19 Scope and completion of studies

- (1) The three semester degree course comprises:
 - a) The modules offered during the three regular semesters,
 - b) The Master's thesis
 - c) The Colloquium.
- (2) The modules of the Master's course are listed in appendix 1.
- (3) One ECTS credit point is the equivalent of a workload of 30 hours.

§ 20 Master's Project

- (1) The Master's project is an academic research project that is to be completed independently and within the set time frame by each candidate. The candidate is to conduct research into a specific application or specific complex systems and the applications and new applications are to be developed or improved. The Master's project is normally started after the second semester. The Master's Thesis shall be composed in English.
- (2) The topic of the Master's project and the submission date are provided by the examination board once the candidate has applied for the project. The application can only be granted, if the student is enrolled in the Master's course 'Systems Engineering and Engineering Management' or has been registered as a visiting student in accordance with Section 42 paragraph 2 of the University's Act and has completed at least 50 ECTS credits in the modules of the chosen pathway. The assignment date is the day on which the candidate is informed of the topic and the name of the supervisor. This date is to be recorded.
- (3) The topic of the Master's Thesis is allocated and supervised by a professor of the relevant faculty. The supervisor of the project is also the examiner for the project. The examination board shall nominate a second university lecturer to be the second examiner.
- (4) The processing time (the period of time from the assignment until the submission of the Master's Thesis) is 16 weeks. On written application by the candidate, the examination board may increase the processing time up to a maximum of 30 weeks. The topic and task of the Master's project must be such that it can be completed in the specified time period. An extension of the processing time, by up to four weeks, may be granted once by the examination board, if the candidate submits a justified request before the deadline. The supervisor of the Master's Thesis is to be heard when deciding on the application.
- (5) For students suffering from chronic illness or from a disability according to Section 2 paragraph 1 of The German Civil Law (SGB) IX, Section 14 Paragraph 4 shall be applied.
- (6) The assessment of all individual aspects of the Master's project is assessed jointly by the two appointed examiners in accordance with appendix 2. The student shall be informed about the assessment of the Master's Thesis no later than six weeks after its submission.
- (7) The Master's thesis is to be submitted on time and in two copies to the Soest Student Service Office or to the chair of the examination board. Additionally, one copy of the thesis has to be submitted in electronic form in order to allow for a plagiarism check. The data medium and the format are stipulated by the supervisor. Upon submitting the Master's Thesis, the student has to declare in writing that their work – or, in the event of group work, their individual contribution – was written by themselves and that no sources other than those specified were used and that any cited sources and resources used are appropriately referenced. The submission date of the Master's Thesis has to be placed on record. If the written assignment is sent through postal service the time of posting shall be recorded. If the written assignment is not submitted on time it shall be assessed as „failed' (5.0).

§ 21 Colloquium

- (1) The colloquium supplements the Master's Thesis and shall be assessed individually. It is designed to show the candidate's ability to orally and independently present the results of the Master's Thesis, its academic basis and its interdisciplinary as well as its practical significance. The methodology used in the Master's Thesis will also be subject of discussion.
- (2) Admission to the colloquium may only be granted to those who
 - a) are enrolled at the South Westphalia University of Applied Sciences or hold the status of a visiting student in accordance with §52 Paragraph 2 Higher Education Act (§52 Abs. 2 HG)
 - b) have obtained 60 ECTS credits in the modules specified in appendix 1.
- (3) Application for admission to the colloquium must be submitted to the examination board in writing. Applications must include evidence of meeting the requirements listed in paragraph 2, unless they have previously been submitted to the examination board. Furthermore, a statement about prior attempts to take similar examinations and whether an audience is to be excluded shall be enclosed. The application for admission to the colloquium may be submitted at the same time as the application for admission to the Master's Thesis. In this case admission to the colloquium shall be granted as soon as the examination board has been provided with the required evidence and documents.

- (4) The colloquium is carried out as an oral examination according to § 16 with a duration of at least 30 minutes but not longer than 45 minutes and shall be jointly conducted and assessed by the examiners of the Master's Thesis. The colloquium shall be conducted by those examiners whose individual grades were used as a basis for the overall Master's Thesis grade. The regulations applicable for the oral examinations shall also apply to the colloquium.
- (5) With the approval of the supervisor, the colloquium may be performed via video conference. The prerequisites for the video conference shall be determined by the examination board.
- (6) For passing the colloquium, five ECTS credit points are awarded.

§ 22 Result of the Master's examination

- (1) The Master's examination is passed if the following ECTS credit points have been acquired:
 - a) 60 ECTS credits in the modules listed in appendix 1.
 - b) 25 ECTS credits for the Master's project
 - c) 5 ECTS credit points in the Colloquium.
- (2) The Master's examination has been permanently failed if one of the examination results pursuant to Paragraph 1 has conclusively been awarded a 'fail' or has been assessed as 'not satisfactory'.
- (3) A notification as to the 'fail' result in the Master's examination is issued, which is to include instructions about grounds for appeal. Upon request of the candidate and after his/ her de-registration, the examination board shall issue a certificate stating the study and examination results achieved with their grades as well as those necessary for the completion of the Master's examination. The certificate must record the fact that the Master's examination has been permanently failed.
- (4) Candidates who leave the university without a final degree may, upon request, obtain a certificate confirming the entire study and examination achievements.

§ 23 Calculation of the final grade and Master's Degree certificate

- (1) The final grade of the Master's examination is to be calculated from the arithmetic mean of the credit-assessed individual scores for the module examinations, the Master's Thesis and the colloquium according to § 10 Paragraph 5 pursuant to these examination regulations. For the final grade, only the first digit after the decimal point shall be taken into account for the overall grade and recorded on the certificate. In the event of a final grade being assessed equal or better than 1.3, deviating from § 9 Paragraph 6, the final grade 'passed with distinction' shall be awarded.

A certificate confirming the passed Master's examination is to be issued immediately. The certificate has to contain information on all the required modules, including their grades as well as the topic and grade of the Master's Thesis, the grade of the colloquium and the final grade of the Master's examination. Each grade shall be followed by the decimal digits in brackets. In addition to the overall grade, the certificate must also include an assessment in accordance with the ECTS grading. In addition, the Master's course 'Systems Engineering and Engineering Management' must be noted as well as the chosen pathway. The Master's certificate shall be issued bilingually in German and in English.

- (2) The Master's certificate is to be signed by the chair of the examination board. It shall be furnished with the official stamp from the examination board of the Master's course 'Systems Engineering and Engineering Management' at the South Westphalia University of Applied Sciences and bears the date of the colloquium.
- (3) Along with the certificate, the candidate will also be awarded a Master's Degree Certificate (Masterurkunde) with the date of the certificate. The degree certificate will certify the conferment of the Master's degree 'Master of Science (MSc.)'. The Master's Degree certificate will be issued bilingually in German and English. It is to be signed by the dean and the chair of the examination board and sealed with the stamp of the South Westphalia University of Applied Sciences.
- (4) Along with the certificate, a Diploma Supplement shall be issued.
- (5) In the context of the cooperation with other universities, a Master's certificate can be issued
 - a) If all modules needed to obtain the Master's degree have been completed in the partner university and
 - b) at least 30 module credits have been obtained in Soest.

§ 24 Access to the examination files

Immediately after the assessment of an examination, the candidate shall, upon request, be granted inspection of his/ her examination documents. Time and place of the inspection will be determined by the examiners.

§ 25 Invalidity of examinations

- (1) If a candidate cheated during an examination, and this fact does not become public until after conferment of the degree or the issuance of a certificate according to § 22 (4) , the examination board can change the grade in accordance with section § 23 and can award a grade of 'failed' for the Master's examination.
- (2) The candidate is to be heard with regard to the incident before the examination board makes its decision.
- (3) The invalid certificate is to be confiscated and a new one, with the new grade, is to be issued if the overall grade is not 'failed'. The same is valid for a certificate pursuant to section § 22 (4). If the Master's course has been failed overall after reexamination and the examination board have awarded a 'failed' grade, the Master's Diploma must also be confiscated. A decision in accordance with Paragraph 1 can only be taken within a period of up to five years after the certificate was issued.

§ 26 Coming into effect, publication date and interim regulations

- (1) These examination regulations are effective from 1 September 2016. These regulations will be published in the 'Amtlichen Bekanntmachungen', publication of administrative regulations of the South Westphalia University of Applied Sciences.
- (2) These Master's course regulations will be valid for all those who are enrolled in the Winter Semester 2016/2017 as their first Master's semester.

For students who have started their Master's course before the coming into effect of these regulations, the examination regulations for the Master's course Systems Engineering and Engineering Management dated 12 February 2009 and last amended on 8 November 2012 will continue to be valid up until the end of the Winter Semester 2019/20 with the following provision:

The module examinations of the first and second semester as listed in appendix 1 of the examination regulations mentioned above can be taken for the last time at the end of the Winter Semester 2018/19.

The Master's examination in accordance with the examination regulations of 12 February 2009 must have been completed by 29 February 2020. On application, students can opt to continue their studies in accordance with the new regulations. Once a student has applied to change regulations, the decision cannot be reversed. The examination board decides on the application of changing examination regulations.

- (3) These regulations will be enacted, after review by the president's office of the South Westphalia University of Applied Sciences based on the decision of the faculty council of Electrical Engineering dated 22 June 2016.

Signed: Iserlohn, 24 June 2016

The president

of the South Westphalia University of Applied Sciences

Professor Dr. Claus Schuster

Appendix 1 Modules for the Pathway Electronic Systems

For those students starting in the Winter Semester

Semester	Module	Credits
1	Signal Processing	8
1	Business in Engineering	7
1	Systems Engineering	8
1	Technical Publications and Presentations	7
2	International Project Management	7
2	Microprocessor Based Systems	8
2	Advanced Control Technology (ET)	8
2	Integrated Management Systems	7
2	Project Preparation	-
3	Master's Project	25
3	Project Colloquium	5
	Total	90

For those students starting in the Summer Semester

Semester	Module	Credits
1	International Project Management	7
1	Microprocessor Based Systems	8
1	Advanced Control Technology (ET)	8
1	Integrated Management Systems	7
2	Signal Processing	8
2	Business in Engineering	7
2	Systems Engineering	8
2	Technical Publications and Presentations	7
2	Project Preparation	-
3	Master's Project	25
3	Project Colloquium	5
	Total	90

Modules for the Pathway Mechatronic Systems

For those students starting in the Winter Semester

Semester	Module	Credits
1	Advanced Production Engineering	8
1	Business in Engineering	7
1	Systems Engineering	8
1	Technical Publications and Presentations	7
2	International Project Management	7
2	Microprocessor Based Systems	8
2	Advanced Control Technology (ME / MT)	8
2	Integrated Management Systems	7
2	Project Preparation	-
3	Master's Project	25
3	Project Colloquium	5
	Total	90

For those students starting in the Summer Semester

Semester	Module	Credits
1	International Project Management	7
1	Microprocessor Based Systems	8
1	Advanced Control Technology (ME / MT)	8
1	Integrated Management Systems	7
2	Advanced Production Engineering	8
2	Business in Engineering	7
2	Systems Engineering	8
2	Technical Publications and Presentations	7
2	Project Preparation	-
3	Master's Project	25
3	Project Colloquium	5
	Total	90

Modules for the Pathway Mechanical Systems

For those students starting in the Winter Semester

Semester	Module	Credits
1	Advanced Production Engineering	8
1	Business in Engineering	7
1	Systems Engineering	8
1	Technical Publications and Presentations	7
2	International Project Management	7
2	Modelling and Simulation of Mechanical Systems	8
2	Advanced Control Technology (ME / MT)	8
2	Integrated Management Systems	7
2	Project Preparation	-
3	Master's Project	25
3	Project Colloquium	5
	Total	90

For those students starting in the Summer Semester

Semester	Module	Credits
1	International Project Management	7
1	Modelling and Simulation of Mechanical Systems	8
1	Advanced Control Technology (ME / MT)	8
1	Integrated Management Systems	7
2	Advanced Production Engineering	8
2	Business in Engineering	7
2	Systems Engineering	8
2	Technical Publications and Presentations	7
2	Project Preparation	-
3	Master's Project	25
3	Project Colloquium	5
	Total	90

Appendix 2

Types of Examinations and their Weighting

1 The Master's project

The assessment grade of the Master's project is comprised of the following individual parts.

1. Project Plan, Seminar and Interim Report (15%)

The Project Plan comprises the overall planning of the project (objectives, background, possible methods, project phases, resource planning etc.) This must be written at the beginning of the project. The interim report is to be written after half of the project time has elapsed and the first half of the project has been completed This report is to show the current status of the project and to assess it in comparison to the submitted plan. The project planning is then to be revised based on the interim report. During the seminar presentation, the candidate must present his/her objectives, methods, and interim results to the other master's course students and to his/her supervisors.

2. Implementation (10%)

This part of the project grade is based on the practical work of the candidate during the course of the project. The criteria for this grade are the ability to identify key aspects of the project, their ability to find a relevant methodological approach and its implementation.

3. Thesis (75%)

The Master's Thesis is the final and most comprehensive part of the project. The Master's Thesis must comply with the standard of academic research publications.

2. Colloquium

The content and the results of the Master's project are to be presented at the colloquium by the candidate followed by a discussion of with the two examiners.