Examination Regulations

for

Mechanical Engineering M.Sc.

at

Rhine-Waal University of Applied Sciences

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Translator’s note: This English translation is offered as a service of Rhine-Waal University of Applied Sciences for information purposes only.

Every effort has been made to render a true and authentic translation. However, only original German-language texts published in the Official Notices of Rhine-Waal University of Applied Sciences are legally binding.

In the event of discrepancy or doubt between the German original and this English translation, the German version takes precedence.

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Study and Examination Plan for Mechanical Engineering M.Sc.
Section 1
Applicability

These examination regulations shall apply to Mechanical Engineering M.Sc., offered in English by the Faculty of Technology and Bionics at Rhine-Waal University of Applied Sciences.

Section 2
Aims and objectives; purpose of examinations; master’s degree

(1) With due regard to the general study objectives outlined in Section 58 of the Higher Education Act of North Rhine-Westphalia [HG NRW], this master’s degree programme shall convey, in particular, application-oriented content on the basis of sound scientific knowledge as well as enable students to apply natural scientific and engineering-based methods, to develop practical, real-world solutions while thinking beyond the traditional disciplinary boundaries of their field, and to conduct scientific research. A strong command of the English language is key to achieving success in this degree programme, as it provides the essential basis for this degree programme’s continuous goal of broadening and deepening students’ technical language and communication skills.

(2) Moreover, this master’s degree programme aims to produce graduates who:

− can be swiftly and efficiently integrated into multinational industrial companies due to their extensive technical expertise;
− can use their acquired methodological skills to adapt quickly to new problems;
− can continuously supplement their expertise with new knowledge and skills through targeted research and analysis;
− are aware of their limits, and seek out and engage in interdisciplinary collaboration;
− can improve products, processes and procedures in terms of efficiency and sustainable use of resources;
− can evaluate the impact of economic factors on growth and incorporate these considerations into appropriate solutions;
− can devise new methods at an advanced scientific level;
− can use their broad expertise to approach unfamiliar problems with a scientific mindset and solve them in a determined manner.

This master’s degree programme does not set out to train specialists for niche sectors and fields. Instead, it relies on a well-rounded scientific approach to impart a technical and methodological expertise that is both flexible and adaptable to current and future developments of industry.

This master’s degree programme does allow students to define a focus for their degree, however. Six ‘Elective Focus Fields’ are available, of which students may select two. Each Elective Focus Field consists of a cluster of modules with a shared thematic focus.

(3) The curriculum of the Mechanical Engineering M.Sc. programme is derived from the current expectations and demands that industry places on young engineers. At its heart, this
means a solid scientific grounding and the ability to develop sound solutions with practical
significance. These qualifications are imparted over the course of the degree programme in
stages, each with a different focus area:

− Expanded technical principles (examples: Advanced Engineering Mathematics, Fluid
  Mechanics, Principles of Software Development, Structural Analysis)
− Advanced study of applied subjects in the six elective focus fields, which again take
  up the aforementioned technical principles and relate them to applied contexts in
  various technical fields (examples: Mechatronics and Power Transmission Systems)
− Advanced study of key organisational and social competencies (‘soft skills’) of
  students (examples: Quality and Intellectual Property Management, General
  Management)
− Continuous application of acquired knowledge and skills in practical courses and
  projects (examples: Machine Tools Laboratory, Applied Research Project, Master’s
  Thesis)

Graduates command a broad engineering expertise geared towards ongoing development
trends in industry, which qualifies them to work at mechanical engineering and plant
engineering companies and empowers them to take an active, creative role and to act with
entrepreneurial ambition. This expertise also includes valuable interdisciplinary
competencies (e.g. collaborative work in an intercultural and interdisciplinary setting, project
management), which are integral aspects of this degree programme. In addition, graduates
have the proven ability to conduct advanced scientific research, which opens up the
possibility of a career in academia (e.g. pursuing a doctorate).

(4) By successfully passing all required modules, students automatically complete the
final degree requirement, the master’s assessment. This requirement serves as a way to
verify that the aforementioned goals have been achieved based on a student’s overall
individual academic performance.

(5) The academic degree ‘Master of Science’, abbreviated as ‘M.Sc.’, shall be awarded
for successfully completing the master’s assessment.

Section 3
Admission requirements

Admission to this degree programme is governed by the provisions in the Admission
Regulations for Mechanical Engineering M.Sc. of the Faculty of Technology and Bionics of
Rhine-Waal University of Applied Sciences.

Section 4
Standard duration of study; structure of programme; volume of study

(1) The standard duration of study, including examinations, is three semesters.

(2) This degree programme is divided into modules. As a rule, a ‘module’ refers to a
specific group of thematically related and chronologically coordinated course units that
contribute to a uniform education and qualification goal. The master’s thesis and colloquium
each constitute individual modules. In accordance with the framework outlined in
Section 5 (5), the modules in this degree programme comprise a total sum of 90 credit points (‘CP’).

(3) Students are able to define a specialisation for their degree over the course of their studies. More information can be found in the degree plan in the annex of this document.

(4) The volume of study is 43 contact hours per week [Semesterwochenstunden] distributed over the standard duration of study.

(5) Additional information about the degree programme and the type, form and scope of modules can be found in the study and examination schedule in the annex of these examination regulations. For details about a module’s qualification aims, content and type of examination, please refer to the descriptions in the module guide, which is available in the faculty’s central office for all students and staff to view.

Section 5
Structure of the master’s assessment; credit points

(1) As specified in the degree plan (see annex), the master’s assessment, i.e. the final validation of a student’s overall performance, is composed of all course-related examinations and certificates as well as the final examination phase, which consists of the thesis and the final oral examination (colloquium).

(2) As specified in the degree plan (see annex), examinations and certificates may cover the content of a module as a whole or of individual courses therein. Assessment shall take place either before or immediately after the conclusion of the corresponding courses.

(3) Study progression and examinations must be planned in such a way that the master’s assessment can be completed within the standard duration of study.

(4) Examination procedures must allow for the rights granted to students under the German Maternity Leave Act [Mutterschutzgesetz], the German Child Benefits and Parental Leave Act [Gesetz zum Elterngeld und zur Elternzeit], as well as the right to a leave of absence for providing care to those persons specified in Section 48 (5) sentence 5 HG NRW. In general, students requiring a reordering of the examination sequence must submit a written request to the Examination Board.

(5) The master’s assessment is based on a credit point system. All modules and course units are assigned a value in CP in accordance with the European Credit Transfer and Accumulation System (ECTS). The number of CP awarded for a module is based on the prescribed workload that is usually needed to complete the individual course units and the module as a whole. As per the ECTS standard, one CP represents a workload for students of approximately 30 hours. Furthermore, the allocation of CP is based on the assumption that a student’s workload for a full year of study is equal to 60 CP in total. Credit points are acquired when a student fulfils the requirements of the respective examination(s) or certificate(s) for a module. Earned credit points are recorded in the student’s credit point account, which is maintained on his or her behalf by the Examination Board.
Section 6
Examination Board

(1) An Examination Board shall be established in the Faculty of Technology and Bionics to organise examinations conducted within the faculty and assume the duties and obligations allocated by these examination regulations. The Examination Board is an independent body of Rhine-Waal University of Applied Sciences, as well as a public authority within the meaning of German administrative procedural law. It consists of a Chair, Deputy Chair and six additional members. The Chair, Deputy Chair and two additional members shall be elected by the Faculty Council from among the faculty's professors, one member from the research staff (WiMIs), one member from the technical and administrative staff, and two members from the student body. The term in office for full-time employees of the University and their proxies shall be four years; for student members and their proxies one year. Members may be re-elected.

(2) The Examination Board is responsible for ensuring compliance with these examination regulations within the faculty. It is also responsible for the organisation and proper conduct of examinations. The duties and responsibilities of the Dean as outlined in Section 27 (1) HG NRW shall remain unaffected. The Examination Board is responsible, in particular, for ruling on appeals lodged against decisions made during examination procedures. In addition, the Examination Board is responsible for presenting an annual report to the Faculty Council on ongoing trends and developments in examinations and lengths of study. This report shall include corresponding recommendations for reforms or alterations to the examination regulations and curricula. The Examination Board may delegate its everyday duties and tasks to the Chair, but not in the case of rulings on appeals lodged by students.

(3) The Examination Board shall have a quorum when the Chair or Deputy Chair, one or more additional professor and at least two members with voting power are present. Furthermore, at least half of the members with voting power in attendance must be professors. The Examination Board shall pass measures with a simple majority. In the event of a tie, the deciding vote shall be cast by the Chair. Non-professors shall not contribute to decisions of a pedagogical-academic or disciplinary nature, in particular decisions relating to the recognition or other assessment of examinations or the appointment of examiners and observers. Furthermore, student members shall not participate in decisions or discussions on issues that relate to their own examinations or to examination tasks. In the event of decisions described in Sentence 5, the Examination Board shall have a quorum when the Chair or Deputy Chair and at least two additional professors are present.

(4) Examination Board members have the right to observe examinations within their respective faculty. Student members are not permitted to observe an examination if they are required to sit that same examination within the current examination period.

(5) All members of an Examination Board, their proxies, examiners and observers are subject to strict confidentiality requirements. Those members not employed in public service in Germany shall be sworn to confidentiality by the Chair of the Examination Board.

(6) Any detrimental decisions made by the Examination Board or its Chair must be communicated to the affected student without delay. Affected students shall be given the opportunity for a fair hearing before a final decision is made.
Section 7
Examiners and observers

(1) All members of the teaching staff at Rhine-Waal University of Applied Sciences are authorised to act as examiners. In exceptional cases, non-members of the teaching staff may be authorised to act as examiners, provided they have the relevant vocational and occupational experience and this decision is deemed necessary and appropriate for accomplishing the purpose of the examination (acting as second examiner for the thesis, for example). Examiners must possess at least those qualifications being assessed by the respective examination or equivalent qualifications; this also applies to any qualified observers present during oral examinations. The Examination Board shall have the final say in these matters. Examiners and observers are appointed by the Examination Board. They are not bound by any outside instruction in their duties.

(2) The Examination Board is responsible for ensuring that testing obligations are distributed as evenly as possible among examiners.

(3) The Chair of the Examination Board shall notify students of the names of the examiners in a timely manner. Students shall be notified ideally upon admission to the examination, but in general no later than two weeks before the scheduled examination date or, in the case of the master's thesis, no later than the date of issue of the thesis topic. Notification by electronic means or public display is sufficient.

Section 8
Credit transfer and recognition of prior learning

(1) Credit for prior examinations completed in degree programmes at state universities or state-recognised universities in Germany, at state vocational academies or state-recognised vocational academies in Germany, at state universities or state-recognised universities elsewhere abroad, or at Rhine-Waal University of Applied Sciences shall be transferred on request, provided the previous examination does not differ significantly in terms of tested knowledge and skills from the examinations being substituted. This shall also apply to previous degrees earned in degree programmes within the meaning of Sentence 1.

(2) Prior periods of study or previous examinations are not considered significantly different if they share, to a large degree, the same learning outcome as their counterparts in this degree programme at Rhine-Waal University of Applied Sciences. Equivalency shall not be established by schematic comparison, but rather by overall consideration and evaluation with regard to the European Transfer and Accumulation System (ECTS) and the knowledge and skills being assessed. This comparison process shall also take into account the equivalency agreements of the Standing Conference of the Ministers of Education and Cultural Affairs and the University Rectors’ Conference, as well as relevant agreements with partner universities (if applicable). Where uncertainty remains regarding equivalency, the Central Office for Foreign Education and the International Office may also be consulted.

(3) Skills and qualifications acquired in other contexts can also be recognised for credit.

(4) Students are obligated to submit all necessary documentation for credit transfer requests to the Examination Board. Documents must clearly state the completed period(s) of study and the related passed or failed examinations or other coursework, as well as all other
skills and qualifications which are to be credited in each specific case. As a rule, when requesting credit for previous study experience, students must submit the relevant examination regulations, module descriptions and their individual transcript of records or a comparable document.

(5) If a credit transfer request is approved, the corresponding marks – provided a mark was awarded and the grading system is comparable – shall also be transferred and included in any relevant grade calculations at the University. If no mark was awarded or the grading system is not comparable, but there is sufficient evidence to surmise a mark, then a mark shall be awarded according to the grading scale in Section 10 (3) and the credit transfer process shall proceed according to sentence 1 of this paragraph. If there is a lack of evidence indicating a specific mark, then a passed examination shall be credited without a mark and not included in any grade calculations. If a previously failed examination attempt is recognised, it shall be recorded once as 'not passed'; Section 11 shall govern subsequent re-examinations. Successful transfer of credits shall be documented in the final grade certificate (see Section 26 (1)).

(6) Intentionally omitted.

(7) The Examination Board is responsible for ruling on credit transfer requests. Before rulings on equivalency are made, the responsible subject representatives at the University must be consulted.

Section 9
Placement examination

(1) Applicants who have acquired the skills and knowledge needed to succeed at university, but by means other than previous study experience, are eligible to sit a placement examination [Einstufungsprüfung] and, depending on the results, to begin their studies in an advanced semester, provided this does not clash with any applicable regulations for the allocation of places at a university in Germany.

(2) Depending on the results of the placement examination, the examinee may be partially or fully exempted from certain course units and their respective examination or certificate requirements. The examinee shall receive a certificate confirming the decision.

(3) Details concerning the type, form and scope of placement examinations are specified in the Placement Examination Regulations of Rhine-Waal University of Applied Sciences.

Section 10
Evaluation of examinations

(1) Examinations are evaluated and differentiated through marks. The marks for individual examinations are awarded by the corresponding examiner.

(2) If multiple examiners are involved in a single examination, then they shall jointly evaluate the entire examination unless otherwise specified below. If the individually awarded marks are not identical, the final mark shall be determined by averaging the two scores.
Examinations shall be marked according to the following scale:

1 = Very Good = Excellent
2 = Good = Well above average
3 = Satisfactory = Average
4 = Sufficient = Manages to meet requirements despite shortcomings
5 = Failed = Does not meet requirements due to significant shortcomings

Marks can be raised or lowered by 0.3 points for more precise assessment; the marks 0.7, 4.3, 4.7 and 5.3 are not permitted.

For marks that fall between two whole numbers, the following ranges shall apply:

1.0 to 1.5 = Very good
1.6 to 2.5 = Good
2.6 to 3.5 = Satisfactory
3.6 to 4.0 = Sufficient
4.1 to 5.0 = Failed

Only the first decimal place shall be taken into account; all other decimal places are dropped without rounding.

An examination is passed if a mark of ‘Sufficient’ (4.0) or better was awarded.

If a module consists of multiple independent course units and thus multiple examinations, then the overall mark for that module shall be calculated from the average of the individual marks. Marks shall be weighted by their corresponding credit point values.

If a module consists of an examination and a certificate, then the mark for the examination will become the overall mark for the module once the certificate requirement is met.

Students shall be informed of the results of written examinations (Section 16) within six weeks of the end of the corresponding examination phase. Students shall be informed of the results of assignments, term papers or project papers (Section 18) within six weeks of the conclusion of the examination. Students shall be informed of the results of their thesis within eight weeks of the date of submission. Notification by electronic means or public display is sufficient. Students shall be informed of the results of oral examinations immediately after their conclusion.

The final cumulative grade for the master’s assessment can be supplemented by an ECTS grade upon request, providing a relative assessment of academic performance in addition to an absolute assessment. An ECTS grade reflects a student’s individual performance in relation to the performance of other graduates within the same programme of study. Accordingly, graduates who are among the:

- top 10% of their class will receive the grade: ‘A’;
- the next 25% will receive the grade: ‘B’;
the next 30% will receive the grade: 'C';
the next 25% will receive the grade: 'D';
and the final 10% will receive the grade: 'E'.

Section 11
Repeating examinations

(1) Failed examinations may be repeated up to two additional times. The master's thesis and the colloquium may be repeated once each. Previous failed attempts at examinations, which were credited as per Section 8, may be repeated up to three times.

(2) Passed examinations, whether completed at Rhine-Waal University of Applied Sciences or credited from a different institution, cannot be repeated for a better mark.

(3) Intentionally omitted.

(4) Intentionally omitted.

(5) Intentionally omitted.

Section 12
Withdrawal, examination offences, penalties for violations

(1) An examination shall be evaluated as 'Failed' (5.0) if a student is registered for the examination but fails to appear without good reason, or if a student withdraws from an examination in progress without good reason, or if a student does not complete an examination prior to the deadline. Sentence 1 shall also apply when a student does not submit a thesis or an examination in the form of an assignment, term paper or project before the deadline without good reason.

(2) The Examination Board must be notified immediately and in writing of any mitigating circumstances for missing an examination, withdrawing from an examination or failing to submit an examination before the deadline, and credible evidence must also be provided. In the case of illness on the day of the examination, the Examination Board reserves the right to request a medical certificate from a doctor of the Board's choosing. If the Examination Board recognises the mitigating circumstances provided, then the student shall be notified that he or she may register again for the same examination without penalty.

(3) If a student attempts to alter the results of an examination through cheating or the use of any unauthorised materials, then that examination shall be evaluated as 'Failed' (5.0). Students who disrupt the due and orderly examination process can be excluded from an examination, usually after first receiving a warning from the examiner or examination supervisor; in this case the excluded student shall receive the mark 'Failed' (5.0) for the examination attempt. The reason(s) for exclusion shall be put on official record. Students excluded from an examination may appeal the decision to the Examination Board. This right also applies to exclusions on the basis of cheating or the use of unauthorised materials.
In the event of repeated or multiple or otherwise serious examination offences, the master’s assessment may be declared definitively and irreversibly failed. The Examination Board shall be responsible for this decision. If a master’s assessment is declared definitively and irreversibly failed, the affected student shall be automatically deregistered from this degree programme.

Section 13
Purpose, scope and types of examinations

(1) The purpose of examinations is to continually assess over the course of the degree programme whether students have acquired proficiency in key content and methods of specific disciplines, and can independently and correctly apply their acquired knowledge and skills.

(2) Examination requirements are based on the contents of the related course unit(s). Students are entitled to expect the same examination content for up to a maximum of two successive semesters.

(3) Examinations are generally conducted in the form of written examinations (Section 16), oral examinations (Section 17) or assignments, term papers and projects (Section 18). A combination of these examination types is also possible with the consent of the Examination Board.

(4) As a rule, the Examination Board shall communicate the type of examination – as well as the duration in the case of written examinations – two weeks before the start of the related course unit. The type of examination and the duration shall be set in a uniform and binding manner for all participating students in agreement with the examiner(s). Notification by electronic means or public display is sufficient.

Section 14
Requirements for admission to examinations

(1) Students can be admitted to course-related examinations if they:
   1. have met the admission requirements defined in Section 3; and
   2. are officially enrolled as students or have visiting student status at Rhine-Waal University of Applied Sciences on the date of the examination.

(2) As a rule, students must register for examinations via the appropriate online platform prior to the deadline set by the Examination Board, or otherwise in writing to the Chair of the Examination Board.

(3) The registration request must include documents proving that the prerequisites in paragraph (1) have been met, provided that these documents were not submitted previously.

(4) Requests for registration for an examination shall be denied if:
   a) the prerequisites in paragraph (1) have not been met; or
   b) submitted documents were incomplete and missing documents were not submitted before the deadline set by the Examination Board; or
c) the student, while within the area of application of the Basic Law, has definitively failed a prescribed examination in an identical degree programme, or definitively failed an examination corresponding to the one specified in the registration request in a related or comparable degree programme.

(5) The Chair of the Examination Board, or the Examination Board itself in cases of doubt, shall rule on all decisions regarding admission to an examination. Notification by electronic means or public display is sufficient.

(6) A student can submit a request to the Chair of the Examination Board to withdraw from an examination – generally via the appropriate online platform, otherwise in writing – by no later than ten days before the scheduled examination date set by the Examination Board without loss of an examination attempt.

(7) Certificates can be obtained when the prerequisites in paragraph 1 have been met.

Section 15
Conduct of examinations

(1) Dates for examinations shall be set in such a way that they do not require the cancellation of course units.

(2) Students shall be notified of the date of an examination in a timely manner, generally at least two weeks before the examination is scheduled to occur. Notification by electronic means or public display is sufficient.

(3) For identification purposes, students must present their student ID in combination with an officially recognised photo ID (e.g. passport) upon request by the examiner or examination supervisor.

(4) If a disabled student within the meaning of Section 3 of the Equal Rights for Disabled Persons Act [Behindertengleichstellungsgesetz] can demonstrate via medical certificate or by other credible means that he or she is not able to sit the examination in its current form, in part or in full, due to his or her impairment, then the Examination Board may permit the student to sit an equivalent examination in a specially arranged form. These special testing conditions should ensure, where possible, a testing environment without disadvantage for the disabled student; where uncertainty remains, further evidence of disability may be required. Special examination arrangements can include in particular:

− extending the duration of examinations / the allotted testing time;
− providing individual rest periods during a timed examination;
− splitting examinations into smaller parts;
− replacing written examinations with oral examinations, or vice versa;
− permitting and, where applicable, providing additional aids or reference materials, personal assistance, adapted examination documents or separate testing areas.
Section 16

Written examinations

(1) The purpose of a written examination [Klausur] is to assess whether students are able to recognise and solve problems in a particular field using commonly employed methods and techniques and with a limited amount of time and materials. Written examinations may also be conducted on a computer with the express approval of the Examination Board, provided that the technical conditions ensure compliance with all statutory data privacy and protection requirements.

(2) The time allotted to students for a written examination is based upon the number of contact hours per week for the corresponding course unit. As a general rule, 60 minutes shall be allotted for every two contact hours per week.

(3) Written examinations are supervised. The examiner shall decide which materials, if any, are permitted for use during a written examination.

(4) As a rule, examination tasks are composed by a single examiner. Where justified by subject matter, particularly when multiple disciplines are covered by a single examination, the examination task may be composed by multiple examiners. In this case, the examiners shall first jointly define the weighting of the different parts of the examination. As a rule, weighting follows the actual distribution of credit points.

(5) If a student is repeating a previously failed written examination for the final time permitted by German law, then this final attempt shall be evaluated by two examiners. In all other cases, evaluation by a single examiner is sufficient. As a rule, in those cases described in paragraph (4) sentence 2, examiners shall evaluate only their respective parts of the examination; sentence 1 shall remain unaffected.

Section 17

Oral examinations

(1) Oral examinations shall be conducted before a single examiner in the presence of a qualified observer, or before a panel of examiners as group or individual examinations. Where an observer is present, the examiner shall first consult with the observer before the final mark is awarded. In examinations before a panel of examiners, the examiners shall jointly evaluate the examination performance.

(2) An oral examination generally requires at least 30, but no more than 45 minutes. In the case of group examinations, the maximum length can be increased, but should not exceed 30 minutes per student.

(3) A record shall be kept of the main topics and the results of an oral examination, including, in particular, all facts justifying the awarded mark.

(4) Students intending to sit the same oral examination at a later date are permitted to attend the examination of others, provided that there is sufficient space available and no objection from the student(s) being tested. Expanding on sentence 1, each student being tested is permitted to invite one fellow student. Observing students are not permitted to be present during post-examination discussions or when the mark is disclosed.
Section 18
Assignments, term papers, projects

(1) Examinations in the form of take-home assignments, term papers or projects involve clearly defined tasks that are taken directly from the theoretical and practical context of the subject area being tested. These examinations may also be supplemented with a presentation and/or a technical discussion. The examination can be conducted as a group examination if each student’s individual contribution is sufficiently recognisable and verifiable. The topic and task must be arranged in such a way that it is possible to complete the assignment, term paper or project before the deadline.

(2) No more than four months shall be allotted for an assignment, term paper or project.

(3) The Chair of the Examination Board or the assigning examiner shall notify students of the task, deadline and where to submit an assignment, term paper or project in writing, via public display or by electronic means.

(4) Section 16 (5) sentences 1 and 2 shall apply accordingly.

(5) When submitting an assignment, term paper or project, students must also include a written declaration that all work – or, in the case of group work, all of the submitting student’s respective and appropriately marked individual contribution – was produced independently and made use of no resources or sources other than those which were clearly stated, with quotations duly marked as such.

Section 19
Certificates

(1) The purpose of certificates is to attest, in particular, the successful completion of exercises, practical courses and seminars. A certificate is awarded when a student has regularly and actively participated in the course unit and demonstrated that he or she is well-versed in the taught knowledge, skills and methodology. Certificates are issued by the instructor responsible for the corresponding course unit.

(2) The testing process for certificates is not formalised, nor bound by any registration or admission procedures. Various documents can serve as proof that certificate requirements have been met, for example: records from experiments, written analyses of results, calculations, programming exercises, constructs, technical design concepts and sketches, oral presentations and technical discussions.

(3) Certificates are awarded on a pass/fail basis and may be repeated an unlimited number of times.

Section 20
Master’s thesis

(1) The purpose of the master’s thesis is to assess whether students, given a limited period of time, can successfully use scientific and application-oriented methods to develop an independent, practice-oriented scholarly work in their field of study. At the same time, the master’s thesis allows students to demonstrate that they have systematically and methodically studied the subject area, that they used abstract and analytical thinking above
and beyond the isolated case when developing solutions and conclusions, and that they duly examined both the technical minutiae and the overarching multidisciplinary correlations of the topic. The master’s thesis is usually an independent scientific enquiry into the assigned topic, including a comprehensive description and explanation of the generated results.

(2) The thesis topic can be set and supervised by any professor who is authorised to act as an examiner according to Section 7 (1). At the request of the student, the Examination Board can also authorise an honorary professor or a lecturer familiar with the corresponding tasks and duties to act as a thesis supervisor. The thesis can also be completed at a company or institution outside of the university, provided that a sufficient degree of supervision can be assured and subject to the approval of the Examination Board. Students shall be given the opportunity to suggest potential topic areas for the thesis.

(3) The Chair of the Examination Board shall ensure that students are assigned a thesis topic in a timely manner after submission of the corresponding application.

(4) The thesis can also be admitted in the form of group work if each student’s individual contribution fulfils the requirements in paragraph (1) and is clearly distinguishable and thus assessable due to clear delimitation by section, page numbers or other criteria which ensure the clear delimitation of parts.

(5) As a rule, the minimum length of a thesis shall be set by the thesis supervisor. In addition to the text portion, the thesis can also be supplemented with other media, provided they are appropriate and constructive contributions to the documentation in accordance with the assigned task.

Section 21
Requirements for admission to the master’s thesis

(1) Students are eligible for admission to the master’s thesis if they:

1. have met the admission requirements defined in Section 3; and

2. are officially enrolled as students or maintain visiting student status within the meaning of Section 52 (2) HG NRW at Rhine-Waal University of Applied Sciences for the full duration of the master’s thesis; and

3. have acquired at least 50 CP, but have no more than two uncompleted modules remaining in this master’s programme.

(2) The Application for Submission of a Master’s Thesis must be submitted in writing to the Chair of the Examination Board. Students must also include a declaration of any previous attempts at a master’s thesis. Furthermore, the application must indicate the name of the examiner who is prepared to set the topic and act as thesis supervisor.

(3) Before an application has been decided upon, students may withdraw their applications via written request without losing an examination attempt.

(4) The Examination Board shall decide on applications for admission to the master’s thesis. Applications for admission shall be denied when:

a) the prerequisites in paragraph (1) have not been met; or
b) documents are missing or incomplete; or

c) the student, while within the area of application of the Basic Law, has definitively failed a prescribed examination in an identical degree programme, or definitively failed the master’s thesis in a related or comparable degree programme.

Section 22
Date of assignment and deadline for the master’s thesis

(1) The master’s thesis is formally issued by the Chair of the Examination Board. The date of assignment is defined as the day on which the Chair of the Examination Board notifies the student of the topic set by the thesis supervisor; the date of assignment shall be put on official record.

(2) Students are given a period of four months – from the date of assignment to the submission deadline – in order to complete the master’s thesis. Students are not permitted to submit their thesis within the first eight weeks of the date of assignment. The topic and task of the thesis must be set in such a way that it is possible to complete the thesis before the deadline. In exceptional cases, the Chair of the Examination Board can extend the deadline by up to four weeks on the basis of a duly justified request submitted before the original deadline. The thesis supervisor shall be consulted in connection with this request.

(3) Students may request a new thesis topic for any reason, but only once and only within the first four weeks of the date of assignment. If a student is attempting the master’s thesis for a second time, a new topic may be requested only if this right was not exercised during the first attempt.

(4) In the case of a disabled thesis candidate within the meaning of Section 3 of the Equal Rights for Disabled Persons Act [Behindertengleichstellungsgesetz], Section 15 (4) of these regulations shall apply accordingly.

Section 23
Submission and evaluation of the master’s thesis

(1) The thesis must be submitted on time, as two hard copies and as an additional digital copy (the entire work as a single PDF or Word document) to the responsible person or office. The date of submission shall be put on official record; if a thesis is submitted via post, the time of posting shall be decisive. Students must also include a written declaration that all work – or, in the case of group work, all of the submitting student’s respective and appropriately marked individual contribution – was produced independently and made use of no resources or sources other than those which were clearly stated, with quotations duly marked as such. The master’s thesis may be completed in a language other than English with the consent of the Examination Board.

(2) The master’s thesis shall be evaluated by two examiners. One of the examiners shall be the thesis supervisor. If the thesis supervisor is an honorary professor or a lecturer, then the second examiner must be a professor of the Faculty of Technology and Bionics. If the marks awarded by the examiners are not identical, but the difference is less than 1.5 grade points, then the final mark shall be calculated by averaging the two scores. If the difference in scores is greater than or equal to 1.5, then a third examiner shall be appointed by the
Examination Board to evaluate the thesis. In this case, the final mark shall be calculated by averaging the two best scores. A final mark of ‘Sufficient’ (4.0) or better is only possible if at least two of the marks are equal to ‘Sufficient’ (4.0) or better. All marks shall be justified in writing.

(3) Twenty-one CP shall be awarded for passing the thesis.

Section 24
Colloquium

(1) The colloquium (final oral examination) complements the master’s thesis, is evaluated separately and should be held within two months of submission of the thesis. Its purpose is to ascertain whether the student can orally express the findings of the thesis and their subject-specific and interdisciplinary correlations, as well as substantiate the findings in an independent manner and assess their wider practical significance. The colloquium should take the form of a discussion with the candidate on the thesis topic. It may be conducted in a language other than English with the consent of the Examination Board.

(2) Students are eligible for admission to the colloquium if they:
   1. have met the general prerequisites outlined in Section 3; and
   2. are officially enrolled as students or have visiting student status within the meaning of Section 52 (2) HG NRW at Rhine-Waal University of Applied Sciences at the time of the colloquium; and
   3. have acquired at least 87 CP.

(3) The application for admission to the colloquium must be addressed to the Chair of the Examination Board. Students must also include a declaration of all previous attempts at completing a colloquium. Students may apply for admission to the colloquium and the thesis at the same time; in this case, the application shall be approved when the prerequisites in paragraph (2) are met. Section 21 (4) shall apply analogously for decisions on admission to the colloquium.

(4) The colloquium is an oral examination jointly conducted and evaluated by the two thesis examiners. Where the situation outlined in Section 23 (2) sentence 5 arises, the colloquium shall be jointly conducted and evaluated by the two examiners whose individual marks were ultimately used to calculate the final mark for the thesis. The colloquium requires approximately 45 minutes. The provisions for oral examinations (Section 17) shall apply analogously to the conduct of the colloquium.

(5) In the case of disabled students within the meaning of Section 3 of the Equal Rights for Disabled Persons Act [Behindertengleichstellungsgesetz], Section 15 (4) of these regulations shall apply accordingly.

(6) Three CP shall be awarded for passing the colloquium.
Section 25
Conclusion of the master’s assessment

(1) The master’s assessment is successfully completed when a student earns 90 CP in this degree programme.

(2) The master’s assessment is failed when a student’s final attempt at passing one of the compulsory examinations, the thesis or the colloquium is evaluated as definitively and irreversibly ‘Failed’ (5.0). In this case, the candidate shall receive a written declaration informing him or her of the failed master’s assessment or the irretrievable loss of the right to sit examinations as per Section 11 (1) and providing an explanation of available legal recourse. On written request, the Chair of the Examination Board can issue a certificate listing all successfully completed examinations and their final marks as well as the remaining examinations still required to pass the master’s assessment. This certificate must clearly state that the deregistered student has definitively and irreversibly failed the master’s assessment or lost the right to sit examinations as per Section 11 (1).

Section 26
Final grade certificate, final grade, Diploma Supplement

(1) Students shall be promptly issued a final grade certificate [Abschlusszeugnis] upon passing the master’s assessment, where possible within four weeks after the colloquium. The final grade certificate shall contain a full listing of completed modules and awarded marks; the topic, mark and names of examiners for the thesis; the mark for the colloquium; and the overall final grade for the master’s assessment. If credits were transferred from a different institution as per Section 8, then their origin shall also be noted.

(2) The overall final grade for the master’s assessment is determined on the basis of the individual marks listed in paragraph (1) sentence 2 and the grading scale defined in Section 10 (4). The weighting of marks is based on the distribution of credit points in the degree plan.

(3) The final grade certificate shall be signed by the Chair of the Examination Board and affixed with the official seal of Rhine-Waal University of Applied Sciences. It shall also indicate the date on which the colloquium took place.

(4) In addition to the final grade certificate, each graduate shall receive an official Diploma Supplement and a transcript of records, both issued in English.

(5) Students who leave the University before having successfully completed the master’s assessment may apply for a premature leaving certificate [Abgangszeugnis] listing all examinations completed in their degree programme. Paragraph (3) sentence 1 shall apply accordingly.

Section 27
Master’s degree certificate

(1) A master’s degree certificate shall be issued to students at same time as the final grade certificate and bearing the same date of issue. The master’s degree certificate is an official confirmation that the master’s degree specified in Section 2 (4) has been conferred.
The master's degree certificate shall be signed by the President of the University, by the Dean of the Faculty of Technology and Bionics and by the Chair of the Examination Board and affixed with the official seal of Rhine-Waal University of Applied Sciences.

Section 28
Additional voluntary examinations

Students may voluntarily sit examinations in modules and course units not prescribed by their degree programme. Upon written request, the results of these examinations can be noted on the final grade certificate or the premature leaving certificate, but will not contribute to the final grade.

This shall also apply accordingly to modules completed as in accordance with Learning Agreements (refer to Section 3).

Section 29
Viewing examination documents

(1) Following the conclusion of the master's assessment, students may request the opportunity to view their marked examinations, corresponding evaluations of the examiners and examination reports.

(2) Students must submit a request to view examination documents to the Chair of the Examination Board within one month from the date of issue of the final grade certificate, premature leaving certificate or declaration of a failed master's assessment. Section 32 of the Administrative Procedure Act of North Rhine-Westphalia [Verwaltungsverfahrensgesetz] shall govern students' right to submit a request after expiry of this deadline. The Chair of the Examination Board shall set the time and place for viewing.

(3) Students may request an opportunity to view the examination documents from a course-related examination once they have completed the examination in question. Requests must be submitted within one month after publication of the examination results. Paragraph (2) shall apply accordingly.

Section 30
Nullification of examinations

(1) If a student has cheated on one or more examination and this becomes known only after issuing the final grade certificate, premature leaving certificate or certificate specified in Section 25 (2) sentence 3, then the Examination Board reserves the right to retroactively nullify the marks for the affected examinations and to declare the master's assessment, in part or in whole, as 'Failed'.

(2) If the prerequisites for admission to an examination were not met and it can be shown that this was not the result of deliberate deception by the student and this inconsistency first comes to light after issuing the final grade certificate, premature leaving certificate or certificate specified in Section 25 (2) sentence 3, then this error shall be remedied by virtue of passing the examination. If the student used deliberate deception to gain wrongful entry to
the examination, then the Examination Board shall decide upon any subsequent legal action, taking into account the Administrative Procedure Act of North Rhine-Westphalia.

(3) The consequently incorrect final grade certificate, leaving certificate, master’s degree certificate or certificate described in Section 25 (2) sentence 3 shall be revoked and, where appropriate, reissued.

**Entry into force**

*Note:* These revised examination regulations entered into force on 10 October 2018.
Curriculum for Mechanical Engineering M.Sc.

Annex

Study and Examination Plan for Mechanical Engineering M.Sc.

Students in this master's degree programme can define the specialisation of their degree by selecting specific Elective Focus Fields. At least two of six Elective Focus Fields must be selected, and all modules therein must be completed successfully. The following six Elective Focus Fields are available to choose from:

- Advanced Product Engineering
- Energy and Process Engineering
- Power Transmission Systems
- Mechatronics
- Production
- Materials
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**Abkürzungen, abbreviations:**

Ex = Art der Prüfung, type of examination
CH = Semesterwochenstunden (SWS), contact hours per week (note: one CH represents 45 minutes of weekly classroom instruction during the semester.)
WS = Wintersemester, winter semester
SS = Sommersemester, summer semester
CP = credit points, (= ECTS-Punkte)
VL = Vorlesung, lecture
S = Seminar
Ü/E = Übung, exercise
Pr/PT = Praktikum, practical course
Projekt, project
P = Prüfung, examination
T = Testat, certificate

**Total Credits Summe Creditpoints**

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