

**Examination Regulations 2015 for Master's Degree Programmes
with Hearing Model**

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**Examination Regulations for the Master's Degree Programme Computational Methods in Engineering
at Gottfried Wilhelm Leibniz Universität Hannover**

The Faculty of Civil Engineering and Geodetic Science of Gottfried Wilhelm Leibniz Universität Hannover has issued the following examination regulations as per §§ 7 Sec. 3, 44 Sec. 1, Niedersachsen Higher Education Act:

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First Part: General

§ 1 Examination Purpose and Academic Degree

- (1) ¹The master's examination constitutes a further final degree of studies, containing a vocational qualification. ²The master's examination is meant to prove if the examinee is able to work independently on an advanced level according to scientific and artistic principles, applying scientific findings, and if the examinee has an overview of the subject-related specialist correlations and acquired the know-how and operational competence required for the transition to the working world.
- (2) After the master's examination has been passed, Gottfried Wilhelm Leibniz Universität Hannover confers the academic degree of "Master of Science (MSc)".

§ 2 Duration and Structure of Studies

¹The regular period of study is two years. ²Time expenditure for presence-requiring studies and private studies is 120 ECTS credit points at 30 hours each. ³Studies are made up of four semesters.

§ 3 Responsibility (Dean of Studies, Examination Board)

- (1) ¹The tasks to be performed under the present examination regulations come within the responsibility of the dean of studies. ²If so agreed with the dean of studies, the faculty council may establish an examination board to deal with such tasks.
- (2) ¹The examination board is made up of five members, of which three members from the group of professors, one member, active in teaching, from the research staff group, and one member from the group of students. ²The examination board members and their deputies are appointed by the respective group representations. ³Both the chairperson and the deputy chairperson are appointed by the examination board and must be members of the group of professors, or habilitated members. ⁴The student member acts in a purely advisory capacity regarding assessment issues and in decisions on the approval of examination performances. ⁵The dean of studies, if not having been appointed member of the examination board, may participate in the board meetings in an advisory capacity.
- (3) ¹The examination board members and their deputies are subject to official secrecy. ²Unless they are civilian public sector employees, the chairperson has to swear them to secrecy.
- (4) ¹The examination board has a quorum when the majority of members entitled to vote are present. ²Decisions are taken with the majority of the valid votes casted; abstentions are considered as non-votes.
- (5) ¹The examination board meetings are non-public. ²The examination board meetings are minuted. ³The minutes must record the essential subjects of discussion and the decisions taken.
- (6) The examination board members are entitled to participate, in an observing capacity, in examinations held.
- (7) ¹The examination board may delegate powers to the chairperson and the deputy chairperson, subject to revocation. ²To fulfill its tasks, the examination board may use the services of an institution authorised by the board. ³The chairperson shall prepare the examination board's decisions, carry them out and report to the examination board about this activity on a continuous basis. ⁴A delegation of powers to the chairperson or deputy chairperson is excluded for cases specified in § 18 Sec. 1.
- (8) The examination board may adopt its rules of procedure.

Second Part: Master's Examination

§ 4 Structure and Content of the Examination

- (1) ¹The master's examination is given as accompanying the course of studies. ²It consists of examination performances and of course achievements, if applicable, in compulsory modules as per Attachment 1.1, the compulsory module "Master's Thesis" according to Attachment 1.4, and, if so, required elective modules as specified in Attachment 1.2 as well as elective modules as per Attachment 1.3. ³The modules as per Sentence 2 may likewise be shown in special skills areas.
- (2) The teaching units related to the modules may be seen from the module catalogue or the lecture list.

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§ 5 Examiners

¹The organ competent as per § 3 shall appoint, for the modules of the Computational Methods in Engineering programme, members of the group of professors at the Faculty of Civil Engineering and Geodetic Science at Gottfried Wilhelm Leibniz Universität Hannover as authorised examiners. ²The organ competent as per § 3 may appoint further examiners, if they hold at least the qualification to be ascertained through said examination, or an equivalent qualification. ³If fulfilling requirements as per Sentence 2, examiners may likewise be appointed who are not members or affiliates of Gottfried Wilhelm Leibniz Universität.

§ 6 Course Achievements and Examination Performances

- (1) ¹Course achievements particularly include ungraded assignments, lab exercises, face-to-face exercises, internship reports, written tests, presentations, and term papers. ²The course achievements to be rendered are explained in more detail in the respective module descriptions, and are fixed by the teaching staff by the beginning of the course at the latest. ³As a rule, course achievements must be completed within one year after the end of the respective course.
- (2) ¹Examination performances are understood to comprise the master's thesis, written tests, oral examinations, term papers, as well as seminar papers. ²Further details on the examination forms are specified in Attachment 2.1.
- (3) ¹In case alternative forms of examination in a module are specified in Attachments 1.1, 1.2, or 1.3, or if one form of examination may be replaced by another form, the form of examination has to be announced by the beginning of the semester at the latest. ²The same applies for the weighting of the individual components, if Attachments 1.1, 1.2, or 1.3 provide for a complex examination performance.
- (4) Examination performances and course achievements in the form of group work are admissible, provided the individual contributions can be clearly set apart and separately evaluated based on objective criteria.
- (5) When delivering written term papers (course achievements and examination performances), it has to be declared in writing that
 - a) the paper has been authored independently,
 - b) no other support than the references and auxiliary means specified have been utilized,
 - c) all points in the paper which have been taken over from other sources, whether literally or analogously, have been marked accordingly, and
 - d) the thesis has not been submitted to any other examination authority so far, neither in same nor in similar form.
- (6) ¹During the semester, in addition to the respective examination performances, up to five smaller performances in the form of lectures, presentations, or short written tests may be offered. ²Student participation is voluntary. ³If a student has successfully completed one or more performances during the semester, the result achieved shall be taken into account as bonus when assessing the examination performance. ⁴The performance or performances may be included in the examination mark with a maximum share of 20 percent. ⁵The number and evaluation of the performances must be indicated by the examiners at the beginning of the semester. ⁶The top mark for the examination performance may likewise be achieved without participating in the performances. ⁷If a student does not participate in individual performances or has not passed individual performances, this shall not deteriorate the overall assessment of the examination performance. ⁸The additional performances shall be designed to ensure that the time expenditure for class time and private study (credit points) within the respective module, as specified in the attachments, be adhered to.
- (7) ¹Attestations may be used in a complementary way for evaluating an examination performance. ²They can be allocated exactly to an examination performance and serve for study-accompanying control of the learning progress. ³Individual criteria like homework assignments, oral or written short examinations may be included in the evaluation of the attestation. ⁴Evaluations of attestations are not explicitly stated in the certificate, they are considered in the evaluation of the examination performance, in accordance with examiner instructions, with a weight of 25 percent maximum. ⁵It must be possible to pass the examination without attestations evaluation included. ⁶According to examiner instructions, attestation assessments may be maintained even if the examination performance has been failed. ⁷The modalities for the implementation of attestations and their inclusion in the examination marks have to be officially posted by the respective examiner by the beginning of the course at the latest.

§ 7 Master's Thesis

- (1) ¹The master's thesis module consists of the master's thesis and, if applicable, an oral examination, according to Attachment 1.4. ²The master's thesis is meant to prove that the examinee is able to work independently on a subject-specific problem within a given period, applying scientific methods. ³For the master's thesis module passed, [...] credit

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points are awarded.

- (2) ¹The topic of the master's thesis must be up to the examination purpose (§ 1 Sect. 1) and the processing time as per Sect. 4. ²The topic must not be assigned until after admission to the thesis as per § 12 Sec. 3.
- (3) ¹The topic may be returned once within the first third of the processing time. ²A new registration after having returned the topic must be submitted within six months. ³In case a registration is not submitted within this period, a topic fixed by the first examiner will be delivered, allowing for a processing time set according to Sec. 4 Sentence 1. ⁴§ 15 Sec. 2 Sentences 1 to 4 shall apply accordingly.
- (4) ¹The master's thesis has to be delivered in both written and electronic forms within [...] *weeks/months* after assignment. ²The master's thesis shall be assessed by the two examiners within six weeks, but not later than ten weeks.
- (5) When delivering the master's thesis, the student has to declare in writing that
 - a) the thesis has been authored independently,
 - b) no other support than the references and auxiliary means specified have been utilized, and
 - c) all items in the thesis which have been taken over from other sources, whether literally or analogously, have been marked accordingly, and
 - d) the thesis has not been submitted to any other examination authority so far, neither in same nor in similar form.
- (6) ¹The process applicable for the examination procedure of the master's thesis module results from the module description as per module manual. ²In case the master's thesis module includes more than one examination performance, the mark is made up according to Attachment 1.4.
- (7) ¹The master's thesis has to be written in German; it may likewise be written in English, if so agreed with the examiners. ²Furthermore, in justified individual cases it may be permitted to write the thesis in a different language. ³Applications as per Sentence 2 shall be decided upon by the organ competent as per § 3 with the decision on the admission (§ 12) at the latest.

§ 8 Pass and Fail of the Master's Examination

- (1) The master's examination has been passed when the modules mentioned in § 4 in connection with Attachments 1.1, 1.2, 1.3, and 1.4 have been passed and at least 120 ECTS credit points have been acquired.
- (2) ¹The master's examination is considered definitely failed when the conditions specified in § 14 Sec. 4 have been met and an application has been rejected as per § 14 Sec. 5 or Sec. 6, or a respective application is no longer possible.

§ 9 Additional Modules and Examinations

- (1) ¹Beyond the examination performances mentioned in Attachments 1.2 and 1.3, students may take further examinations than those required under this programme for achieving the minimum number of credit points (additional examinations). ²The same applies for additionally completed modules under this degree programme (additional modules). ³On application to the organ competent as per § 3, students may likewise complete examinations and modules outside of the degree programme.
- (2) On application to the organ competent as per § 3, the results of additional examinations and of additional modules which have been passed according to § 19 Sec. 2 Sentence 1, will be included in the final graduation documents and other documents according to § 21; however, they will not be considered in stipulating the overall mark.

§ 10 Recognition of Previous Course Achievements and Examination Performances

- (1) ¹Course achievements and examination performances already rendered may be recognized under the conditions specified below. ²Applications for recognition shall be made at the beginning of the courses. ³After commencement of an examination procedure, a recognition for this examination performance or course achievement is no longer possible. ⁴The application has to be addressed to the organ competent as per § 3. ⁵As a rule, it has to be decided upon within six weeks. ⁶The deadline shall begin to run when all documents required for the decision have been received.
- (2) ¹Course achievements and examination performances rendered at a university, whether inland or abroad, shall be recognised in accordance with the "Convention on the Recognition of Qualifications Concerning Higher Education in the European Region" dated 11 April 1997 (Lisbon Convention), provided there are no substantial differences to the course achievements and examination performances to be completed under these examination regulations. ²In case of doubt, statements by the examiner, by a member of Gottfried Wilhelm Leibniz Universität entitled to set examinations as per § 5 in the module for which recognition has been applied for, or by the "Zentralstelle für ausländisches

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Bildungswesen" (Central Office for Foreign Education) have to be obtained. ³The burden of proof regarding a lack of equivalence or substantial differences shall be on Gottfried Wilhelm Leibniz Universität. ⁴The procedure shall be governed by the orientation framework for recognition of course achievements and examination performances, in force at Gottfried Wilhelm Leibniz Universität.

- (3) ¹Vocational competences acquired outside of studies are recognised in an extent of up to 50 percent of the credit points required as per § 2, provided they are equivalent. ²The burden of proof regarding a lack of equivalence or substantial differences shall be on Gottfried Wilhelm Leibniz Universität. ³The procedure shall be governed by the orientation framework for recognition of vocational competences acquired, in force at Gottfried Wilhelm Leibniz Universität.
- (4) ¹For any examination performances recognised, the marks are adopted or, in case of differing grade scales, they are converted; the study periods allotted thereto are recognised, and credit points are awarded as per Attachments 1.1, 1.2, or 1.3. ²In case of incomparable grading systems, the examination performance remains ungraded; this especially applies to the case specified in Sect. 3 Sentence 1. ³The recognition shall be marked in the certificate.
- (5) The decision on recognition or non-recognition shall be communicated in writing to the applicant, allowing for specifications in § 23 Sec. 1.

§ 11 Distance Learning

If so decided by the organ competent as per § 3, selected modules may likewise be offered as distance learning modules.

Third Part: Examination Procedure

§ 12 Admission to Examination Performances

- (1) ¹For examinations in master's programmes students are admitted when enrolled in the respective course of study at Gottfried Wilhelm Leibniz Universität Hannover, taking account of Sec. 2. ²Further admission requirements for individual examination performances may be found in Attachments 1.1, 1.2, 1.3, or 1.4.
- (2) Admission to examinations in master's programmes is denied if in a comparable study course, the student is no longer entitled to take an examination.
- (3) ¹To be admitted to writing the master's thesis, a respective application must be made. ²For admission to the master's thesis, at least 60 credit points must have been acquired in the master's examination, and - as far as provided for - further requirements specified in Attachment 1.4 must have been fulfilled. ³In the event of important reasons, the organ competent as per § 3 may decide on exceptions.
- (4) ¹Admission as per Para. 3 is denied when admission requirements have not been fulfilled. ²If admission has been denied, the examinee shall receive a respective notification.

§ 13 Registration

¹Each examination performance and each repetition of an examination performance have to be registered separately within the period fixed by the organ competent as per § 3. ²On application to the organ competent as per § 3, a registration may likewise be permitted, as an exception, outside of this fixed period. ³The organ competent as per § 3 may provide that a registration is also required for individual course achievements.

§ 14 Failure to Pass

- (1) ¹Failed examination performances in compulsory modules must be repeated within the limits of the actual course offerings. ²Failed examinations from required elective modules need not be repeated; they may be replaced by other examination performances in the same required elective module, with the obligation to acquire credit points in the module commenced and introduce such credits into the master's examination. ³Failed examinations from elective modules need not be repeated; they may be replaced by other examination performances or other elective modules. ⁴Special provisions shall be decided upon by the organ competent as per § 3. ⁵If complex examination performances are failed, all partial examinations must be repeated.
- (2) A failed student research paper or master's thesis may be repeated once.
- (3) ¹In each semester where the student is enrolled and has not taken leave of absence (counted semester), a minimum of 15 ECTS credit points must be acquired, taking account of § 4. ²After each counted semester, the overall sum of credit

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points obtained must be greater or equal, compared to the number of counted semesters, multiplied by 15.

- (4) If one of the conditions as per Para. 3 has not been met, or if the student research paper or the master's thesis has been definitely failed, the overall examination is considered failed.
- (5) ¹At the student's written request, the organ competent as per § 3 may suspend the provisions as per Sec. 3, should the failure to comply be due to an important reason. ²The application according to Sentence 1 has to be filed not later than within one month of having been notified that the final examination has been failed. ³Together with the application, the important reason has to be indicated and substantiated. ⁴At the request of the organ competent as per § 3, a hearing shall take place, either by the organ itself or by a faculty representative. ⁵In the hearing, the reasons for the failure to comply with the provisions of Sec. 3 shall be discussed, and counselling on the further study progress of the student be held. ⁶The organ competent as per § 3 may reset the number of counted semesters according to Sec. 3.
- (6) ¹If an application has not been filed as per Sec. 5 because there were no important reasons for the failure to comply, or if an application for suspension in line with Sec. 5 has been rejected, upon a written request by the student a hearing will be held by a hearing officer appointed by the organ competent as per § 3. ²If an application in line with Sec. 5 has been rejected, the application is considered having been filed on time as per Sentence 1; otherwise it has to be filed within one month after announcement of the notification that the general examination has been failed. ³If the hearing is the last hearing possible, it has to be held before the organ competent as per § 3. ⁴Sec. 5 Sentences 5 and 6 shall apply accordingly. ⁵Before the ultimate failure of the master's examination, the student must have had the possibility to repeat all failed examination performances once.
- (7) ¹The application as per Sec. 6 may be filed not more than twice during the master's studies. ²In case of failure to comply with only one of the two provisions specified in Sec. 3, or if the provisions are not met in the first semester, the application does not have to be counted under the provisions specified in Sentence 1.
- (8) If the organ competent as per § 3 complies with a request as per Sec. 5, or if a hearing according to Sec. 6 has taken place, the notification about the failure to pass the general examination is deemed to be suspended.

§ 15 Neglect, Withdrawal, Deadline Extension

- (1) ¹Withdrawals from a registration for an examination performance or for a repeat examination are accepted until the start of the examination. ²Failure to appear on a fixed examination date shall be deemed to be a withdrawal. ³For examination performances with submission deadlines, the commencement of an examination shall be the assignment of the topic. ⁴As specified in § 14 Sec. 1 Sentence 5, the beginning of a compound examination performance is deemed to be the beginning of its first part. ⁵If the student withdraws from the first part of a compound examination performance, this withdrawal will apply to the overall examination. ⁶Withdrawal as per Sentence 1 is permitted without reasons given.
- (2) ¹In case of the examinee's failure to observe the fixed submission deadline, or in the event of withdrawal from an examination performance only after its beginning, the respective examination performance is assessed as "failed". ²Notwithstanding the foregoing, the examination performance is deemed not taken, should good reasons for such neglect or withdrawal immediately be shown and proved in writing. ³In case of illness, a medical certificate has to be submitted; on demand of the organ competent as per § 3, the medical certificate must have been issued by a medical specialist or medical officer. ⁴The decision on the acceptance of the good reasons is taken by the organ competent as per § 3. ⁵In the cases specified in Sentence 2, the examination board may extend the processing time by a total of no more than one third of the processing time scheduled. ⁶A further extension is only admissible in justified individual cases.

§ 16 Examination Modalities for Cases of Hardship

¹The organ competent as per § 3 shall facilitate students with a serious long-term handicap, proved by a medical certificate issued by a medical officer or medical specialist, to complete examination performances in an equivalent different form, at other dates, or within other deadlines. ²If other important reasons can be proved, especially maternity protection or parental leave, they shall be dealt with accordingly.

§ 17 Assessment of Examination Performances

- (1) ¹Examination performances are normally evaluated by the examiners within one month. ²Examination performances are usually graded. ³Course achievements and ungraded examination performances are assessed as "passed" or "failed". ⁴The following scale of marks has to be used for the assessment of examination performances:

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1.0; 1.3 = "very good" = a particularly excellent achievement,
1.7; 2.0; 2.3 = "good" = an achievement significantly above average requirements,
2.7; 3.0; 3.3 = "satisfactory" = an achievement complying with average requirements in each respect,
3.7; 4.0 = "sufficient" = an achievement complying to minimum requirements despite its deficiencies,
5.0 = "insufficient" = an achievement no longer complying with requirements, due to considerable deficiencies.

⁵An examination performance assessed as "insufficient" has been failed.

- (2) ¹In case an examination performance is valued by two examiners, it is only considered passed when both examiners evaluate the examination performance "passed", "sufficient", or better. ²The mark in this case is calculated from the average of the individual marks fixed by the examiners. ³§ 20 Sec. 3 Sentence 4 shall apply accordingly.
- (3) ¹A complex examination performance within the meaning of § 6 Sec. 3 Sentence 2 is deemed passed when the average calculated by using the weighting of the individual marks is 4.0 or better. ²It shall make no difference if single partial performances have been failed. ³§ 20 Sec. 3 Sentence 4 shall apply accordingly.
- (4) ¹An examination conducted in choice format (e. g. single choice or multiple choice) is considered passed when the examinee has attained at least 50 per cent of the maximum number of points to be assigned (absolute passing score). ²By way of derogation, in cases where the average of all examinations less 18 per cent is inferior to the absolute passing score, the resulting value shall be fixed as relative passing score. ³To ascertain the individual examination results, the difference between the relative and the absolute passing scores are summed up for each examinee. ⁴In case of repeat examinations, the average examination performance rendered by the examinees of the first examination date possible shall apply.
- (5) ¹If the examinee has achieved, in case of performances with choice format, the minimum number of points required for passing the examination as per Sec. 4, the mark shall be
- 1.0 = "very good", if at least 96 per cent,
1.3 = "very good", if at least 91 per cent,
1.7 = "good", if at least 86 per cent,
2.0 = "good", if at least 81 per cent,
2.3 = "good", if at least 76 per cent,
2.7 = "satisfactory", if at least 71 per cent,
3.0 = "satisfactory", if at least 66 per cent,
3.3 = "satisfactory", if at least 61 per cent,
3.7 = "sufficient", if at least 56 per cent, and
4.0 = "sufficient", (4.0) if the minimum number
of points to be assigned has been achieved. ²Should the examinee fail to achieve the minimum number of points required for passing the examination, the assessment shall be "failed".

§ 18 Deception, Breach of Regulations

- (1) ¹When trying to influence the result of an examination performance or course achievement by deception, the respective performance shall be evaluated as "failed". ²Carrying unacceptable auxiliary means after commencement of a performance is always considered a deception attempt. ³Unacceptable auxiliary means shall be deemed to include electronic communication equipment. ⁴In particularly serious cases – especially repeated breach as per Sentence 2, or plagiarism – the organ competent as per § 3 may exclude the examinee from rendering further examination performances and course achievements, or declare the whole examination definitely failed. ⁵Sentence 4 shall also apply for breaches in other degree programmes at Gottfried Wilhelm Leibniz Universität.
- (2) ¹Examinees committing a breach of regulations can be excluded from continuing the respective examination performance; in such a case, the respective examination performance is considered having been assessed as "failed". ²§ 14 shall remain unaffected, unless it is a case specified in § 18 Sec. 1 Sentence 4.

§ 19 Credit Points for Modules

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- (1) ¹The module-related credit points as per Attachments 1.1, 1.2, 1.3, or 1.4 are allocated when the respective course achievements have been rendered and the examination performances required have been passed or valued "sufficient" or better. ²For modules whose examinations are held in the form of cross-module examinations (module group), pursuant to Attachments 1.1, 1.2, or 1.3, credit points are not awarded until after the cross-module examination has been passed.
- (2) ¹A module has been passed when all credit points specified in Attachments 1.1, 1.2, 1.3, or 1.4 have been acquired. ²According to § 20 Sec. 3, the mark for the module or module group shall be formed of the marks obtained in the graded examination performances passed in the module or module group. ³A module group is considered passed when all examination-related modules and the cross-module examination have been passed.
- (3) ¹In fields beyond the compulsory modules as per Attachment 1.1, more modules each may be selected and completed than required to achieve the necessary credit points. ²The calculation of the overall mark is governed by § 20 Sec. 1 to Sec. 3. ³When the credit points required for the general examination have been achieved and the necessary number of required elective modules or of elective modules has been passed, the examination procedure for the remaining required elective modules or elective modules started but not yet passed may be discontinued, if so requested.
- (4) ¹A special skills area is considered passed if all modules required as per Attachments 1.1, 1.2, or 1.3 have been passed. ²According to § 20 Sec. 3, the overall mark of the special skills area is formed of all individual module marks assigned to the special skills area.

§ 20 Calculation of Overall Mark

- (1) ¹For calculation of the overall mark as per Sec. 3, the examination performances passed in the compulsory modules as well as the examination performances passed in the required elective modules and elective modules with the best ratings are used, unless otherwise requested by the student. ²The other required elective modules and elective modules passed are treated as additional examinations according to § 9.
- (2) ¹To calculate the overall mark as per Sec. 3, only marks of the modules required for achieving the credit points as per § 4 may be taken into account. ²To the extent the selection of the last module required for obtaining the necessary credits as per § 4 results in a slight exceeding of this number of points, the modules shall be included in calculating the overall mark as per Sec. 3.
- (3) ¹The overall mark of the master's examination shall be the mean average of the marks pertaining to all examination performances graded in compliance with § 17 Sec. 1 and Sec. 2. ²Unless particular weightings are specified in Attachments 1.1, 1.2, 1.3, or 1.4, the respective credit points are used as weights. ³The overall mark is:
 - at an average of up to 1.5: "very good",
 - at an average of beyond 1.5 up to 2.5: "good",
 - at an average of beyond 2.5 up to 3.5: "satisfactory",
 - at an average of beyond 3.5 up to 4.0: "sufficient",
 - at an average of beyond 4.0: "failed".⁴When composing the overall mark as per Sentence 3, only the first decimal place after the dot will be taken into account; all further places are deleted without rounding.
- (4) If the overall mark is 1.3 or better and the master's thesis has produced a mark of 1.3 or better, the rating of "with distinction" shall be awarded and indicated on the documents, pursuant to § 21.

§ 21 Certificates and Written Confirmations

- (1) ¹After the master's examination has been passed, a document on the conferral of the academic degree and a certificate with individual performance records are issued. ²Furthermore, the students are provided with a Diploma Supplement and a confirmation of the relative ECTS grade distribution (grading table) as well as, upon application to the Examination Office, a written confirmation of the overall mark of studies as Grade Point Average (GPA).
- (2) ¹The certificate shall show the modules and their marks, the topic of the master's thesis and its mark, as well as the credit points achieved and the overall examination mark and, if applicable, the rating of "with distinction" (§ 20 Sec. 4). ²A schedule of modules passed (including the "Master's Thesis" module) is attached to the certificate, indicating the respective courses and credit points as well as grading or valuation of the examination performances. ³All marks are shown as decimal numbers. ⁴The day of having passed the master's examination, to be indicated on all documents, shall be meant to be the day of passing the last module relevant to the calculation of the overall mark as per § 20 Sec. 1. ⁵The issue date of all final graduation documents shall be the date of printing.

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- (3) ¹The Diploma Supplement contains a description of the qualifications achieved in the degree programme, as well as the overall mark ascertained as per § 20 Sec. 3. ²Sec. 2 Sentences 3 to 5 shall apply accordingly.
- (4) ¹The confirmation of the relative ECTS grade distribution is issued in the form of a grading table. ²The mark is determined on the basis of the ECTS Users' Guide provided by the European Commission, in the respective applicable version. ³The organ competent as per § 3 shall determine the respective cohort formation parameters as per framework specifications by the Presidential Executive Committee, and make them available to the Examination Office.
- (5) ¹The certification about the overall mark of studies as Grade Point Average (GPA) shall show the examination performances specified in the certificate as per Sec. 2 additionally in the form of GPA Grade Value Equivalents as follows:

Mark		Grade Value Equivalents
1.0	=	4.0
1.3	=	3.7
1.7	=	3.3
2.0	=	3.0
2.3	=	2.7
2.7	=	2.3
3.0	=	2.0
3.3	=	1.7
3.7	=	1.3
4.0	=	1.0

²The grade value equivalents of these examination performances are used to form grade value equivalents for the module marks, as specified in § 19 Sec. 2 Sentence 2. ³On the basis of the grade value equivalents of these modules, the GPA is defined, according to § 20 Sec. 1 and Sec. 2, as average of the grade value equivalents. ⁴When defining the overall mark pursuant to Sentence 3, the value shall be rounded up to the first decimal place after the dot.

- (6) ¹In the case of § 8 Sec. 2 or when otherwise withdrawing from the respective course of study at Gottfried Wilhelm Leibniz Universität Hannover, on application a written confirmation shall be issued specifying the examination performances and modules passed, their assessments, and the respective credit points allocated. ²All marks shall be shown as decimals. ³If applicable, the written confirmation shall indicate that the examination has been definitely failed.
- (7) ¹All certificates, documents of degree conferral and written confirmations as per Sec. 1 shall be made out in German. ²Additionally, the Examination Office shall provide translations into English.

§ 22 Access to Examination Records

¹After completion of a module examination, upon request to the Examination Office, students are granted access to the complete examination records. ²The application has to be filed at the latest within one year after announcement of assessment or after delivery of the certificate.

§ 23 Procedural Provisions

- (1) Burdensome administrative acts have to be substantiated in writing, furnished with an advice on legal remedies, and delivered to the person concerned.
- (2) ¹Within one month after delivery of the notification, the person concerned may file an opposition in writing at the organ competent as per § 3, against decisions referring to the evaluation of an examination performance. ²The opposition shall be decided upon by the organ competent as per § 3.
- (3) ¹Should the examinee file an opposition with concrete and substantiated objections against valuations made by an examiner, the organ competent as per § 3 shall transmit the opposition to the respective examiner, or – in case of first and second examiners – to both examiners, for a statement. ²In case the examiner modifies (the examiners modify) the valuation according to the application, the examination board shall remedy the opposition. ³Otherwise, the examination board shall review the evaluation on the basis of the statement(s), paying special attention to the questions
1. if the examination procedure has been duly carried out,
 2. if wrong facts may have been taken as a basis for the assessment,
 3. if generally admitted evaluation principles have been disregarded,

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4. if a passable solution consequentially substantiated by weighty arguments has been evaluated as being wrong, or
 5. if the examiner has let himself or herself be guided by irrelevant considerations.
- (4) The opposition shall be decided upon within three months.
- (5) The opposition proceedings must not lead to a deterioration of the examination mark.

Fourth Part: Final Provisions

§ 24 Entry into Force and Transitional Provision

- (1) After having been approved by the Presidential Executive Committee and published in the Announcement Bulletin of Gottfried Wilhelm Leibniz Universität Hannover, these examination regulations shall enter into force on 1 October 2017.
- (2) ¹Students enrolled at Gottfried Wilhelm Leibniz Universität in the Computational Science in Engineering programme, shall be subject to the provisions specified in these examination regulations from the regulations' entry into force.
²Exceptions shall be decided upon by the organ competent as per § 3, based on a reasoned request to be filed within three months after these examination regulations have come into force.

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List of Attachments

Attachment 1: Modules of the Master's Degree Programme Computational Methods in Engineering

- Attachment 1.0: Structure
- Attachment 1.1: Compulsory Modules
- Attachment 1.2: Required Elective Modules
- Attachment 1.3: Elective Modules
- Attachment 1.4: Module "Master's Thesis"

Attachment 2: Forms of Examination

- Attachment 2.1: Definitions
- Attachment 2.2: Glossary

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Attachment 1: Modules of the Master's Degree Programme

Attachment 1.0: Structure of the master's program

The master's program Computational Methods in Engineering (CME) are divided into 4 semesters and have an extend of 120 credit points (CP) made up of 34 CP Compulsory Modules, 26 CP from Elective Modules, 30 CP from the practical project semester and 30 CP from Scientific working.

Special Skills Area		CP	Module
1	Higher Mathematics	min. 10	34 CP Compulsory Modules 26 CP Elective Modules with min. 11 CP from Special Skills Area 1 to 4
2	Higher Mechanics	min. 12	
3	Higher Computer Science	min. 12	
4	Engineering Application		
5	General Studies	max. 15	
Practical Project		30	30 CP
Scientific Working		30	5 CP Seminar Paper
			25 CP Master's Thesis
Σ		min. 120	

Attachment 1.1: Compulsory Modules

Special Skills Area	Module	Course Achievement	Examination Performance	CP
1 Higher Mathematics	Numerics of Partial Differential Equations 1+2	- / S	K/KA/MP/HA/LÜ/PF/R /SL/ZP	10
2 Higher Mechanics	Mechanics of Solids	- / S	K/KA/MP/HA/LÜ/PF/R /SL/ZP	6
	Numerical Methods in Fluid Mechanics	- / S	K/KA/MP/HA/LÜ/PF/R /SL/ZP	6
3 Higher Computer Science	Advanced Stochastic Analysis	- / S	K/KA/MP/HA/LÜ/PF/R /SL/ZP	6
	Reliability and Risk Analysis	- / S	K/KA/MP/HA/LÜ/PF/R /SL/ZP	6
Scientific Working	Seminar Paper	-	ST (80%) + KO (20%)	5

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Attachment 1.2: Required Elective Modules (With Special Skills Areas)

There are no Required Elective Modules in the master's program CME.

Attachment 1.3: Elective Modules

In every Special Skill Area a broad variety of Elective courses are offered. The teaching units related to the modules may be seen from the module catalogue or the lecture list.

In the Special Skill Area "General Studies" students can choose from the University's complete lecture catalogue if they represent a useful addition to the master's program.

Attachment 1.4: Master's Thesis

Module	Se- mester	Admission Requirements, if any	Course Achievement	Examination Performance	Credit Points
Master's Thesis	4	60 CP	-	MA 80% KO 20%	25

Attachment 2 Examination Forms

Anlage 2.1: Definitions

Article

An article is a written paper, composed independently, which is usually prepared under supervision during a specified time within the lecture period.

Composition

¹Compositions are meant to be independently prepared scientific papers on a specified topic. ²They comprise problem definition, troubleshooting, results, and conclusion. ³Compositions are understood to be reports, field-trip reports, internship reports, project reports, or protocols.

Identification Courses

An identification course or identification test is the autonomous determination of animal and vegetable organisms by means of identification keys up to a given taxonomic level.

Documentation

¹A documentation includes the editing and presentation of an artistic, cognitive or activity-oriented process. ²Documentations may be reports and plans relating to professional practice. ³General conditions as to page numbers or the number of plans or layout sheets may be fixed by the instructors at the beginning of the examination, depending on the kind of task. ⁴Further records may be attached to the report as annexes.

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Essay

¹An essay is a critical, subjective examination of a literary and/or scientific question in written form. ²An issue is discussed in its overall context, considering usual academic standards, and scientific positions are critically assessed or analysed.

Experimental Seminar

¹An experimental seminar consists of a series of practical tests which are conducted under supervision in a laboratory. ²The tests are prepared in written form in a laboratory notebook and/or in preliminary protocols, and finalised in written form in the laboratory notebook and/or test records. ³As a rule, the students thereby explain their practical activity, interpret the results and place them in a scientific context.

Practical Examination

A practical examination is understood to be a performance review in sports practice, held during the semester.

Case Study

A case study is an evaluation of the data of an experiment, including method description, programme listings, interpretation, and conclusions, made out in the form of a report.

Term Paper

A term paper is a written paper prepared independently, dealing with a subject-specific or interdisciplinary issue.

Written Test Without Choice Format

A written test is a paper written under supervision.

Written Test With Choice Format

¹A written test is a paper written under supervision. ²Written tests may partially be conducted in choice format (e.g. single choice, multiple choice). ³When preparing examination questions and answers, it must be specified which answers are recognised as correct. ⁴In case of examinations with choice format, the examination questions and answers have to be checked in advance by two authorised examiners as to mistakes, content consistency, and appropriateness. ⁵Should a subsequent check of examination questions reveal individual examination tasks to be obviously incorrect, they shall be deemed not to have been assigned. ⁶Assessments have to be based on the number of examination tasks after deduction of the incorrect questions. ⁷The reduction of the number of examination tasks must not have a disadvantageous effect for the examinee.

Colloquium

¹The colloquium comprises a presentation and a subsequent discussion on question, methods, and results of the paper. ²Sentences 2 to 5 of the definitions of oral examinations shall apply accordingly.

Artistic Presentation

¹An artistic presentation includes one or more artistic exhibits (pictures, photographs, objects, sculptures, installation, videos, etc.) as well as a documentation of the aesthetic process in the form of an adequate (media) presentation, e. g. working protocols/ diary, sketches/photographs with written commentation. ²An artistic presentation is held as individual examination to take place before one examiner and one competent additional assessor. ³Sentences 2 to 5 of the definitions of oral examinations shall apply accordingly.

Artistic and Scientific Presentation

¹An artistic and scientific presentation is based on the interaction between artistic processes and scientific analysis, which are edited in an artistic project and presented in an appropriate form. ²The pictorial and linguistic lines of argument and interpretation contained in the presentation are either debated in an oral presentation with subsequent discussion, or explained in a term paper. ³An artistic and scientific presentation is held as individual examination to take place before one examiner and one competent additional assessor. ⁴Sentences 2 to 5 of the definitions of oral examinations shall apply accordingly.

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Short Assignment

In a short assignment, students independently deal with a subject-specific or interdisciplinary problem within a given processing time, either in written form, design or planning.

Laboratory Exercises

¹A laboratory exercise consists of a number of practical tests or programming tasks with written compositions (test reports). ²As a rule, the students comment on their practical activities, provide an interpretation of results, and put them in a scientific context.

Master's Colloquium

In the master's colloquium, the contents of the master's thesis are discussed and can be deepened.

Model

¹Models are meant to extend the two-dimensional work of design or planning, and serve for spatial orientation and for clarification of planning issues. ²They are created in different scales, depending on the task and on the emphasis placed.

Oral Examination

¹The oral examination takes place non-publicly, in the presence of one additional assessor who holds the qualification to be ascertained through said examination, or an equivalent qualification. ²The essential issues of the examination performance are minuted. ³Students wishing to take the same examination at a later examination date, or other university members claiming own justified interest, have to be admitted as listeners at oral examinations. ⁴This admission does not extend to consultation and notification of marks achieved by examinee(s). ⁵On application of an examinee or of the examinees, listeners have to be excluded as per Sentence 3.

Musical Elaboration in a Learning Group

In the "musical elaboration in a learning group", students shall prove to be able to apply practical educational skills (particularly practical music-making at school) in a class or smaller group, with a view to methodical and didactical adequacy.

Practical Musical Presentation

¹A practical musical presentation is held as individual examination to take place before two examiners or before one examiner and one competent additional assessor. ²Sentences 2 to 5 of the definition of oral examinations shall apply accordingly.

Practical Music-Teaching Presentation

A practical music-teaching presentation is based on a music-teaching seminar course and covers a musical performance by pupils.

Pedagogic-oriented Concert

¹The pedagogic-oriented concert is a performance related to the artistic major subject, with pedagogical orientation playing a significant role (if applicable, in terms of modern concert pedagogy) in realisation and presentation / performance. ²As a rule, it is presented in a school learning group.

Planning and Implementation of a Teaching Unit

The planning and implementation of a teaching unit is conducted in the context of a subject-related practical course and comprises the preparation and implementation of a teaching unit of a usual duration of 60 minutes, as well as its documentation and reflection in the form of a written composition.

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Portfolio

¹In a portfolio, a documentation is prepared, relating to the learning process of certain issues or tasks fixed by the teaching staff at the start of the course. ²Systematic self-reflection is made alongside the teaching units or retrospectively, including the compilation of various materials in a folder, depending on what has been agreed. ³As an option, it is possible to conduct a supplementary interview on the portfolio. ⁴Like the portfolio itself, this interview is competence oriented.

Presentation

¹A presentation is meant to include the processing of a given topic by means of electronic media and, if applicable, the presentation in an oral lecture. ²In the multimedia presentation, media in their broadest sense play an important role; the "multi aspect" may be achieved by mutual interaction of whiteboard, poster, or PowerPoint presentation, but also typical media of music and film as well as media with an emphasis on music education (particularly creative aspects of imparting). ³The form of the presentation and the duration of the oral lecture are determined by agreement. ⁴If the attachment allows for a presentation with composition (PR/A), the presentation has to be completed by a written composition.

Project Work

Project work is meant to include the written formulation of an application for a research project and the presentation of the project idea in a seminar lecture (with discussion).

Lecture

A lecture comprises:

1. independent and in-depth dealing with a problem related to the work context of the course, with relevant literature involved and analysed,
2. presentation of the assignment and imparting of its results in a lecture with subsequent discussion,
3. a written composition, if applicable.

Seminar Paper

A seminar paper is an experimental, documentary or descriptive scientific and practical achievement (project).

Seminar Performance

A seminar performance comprises one term paper and its presentation in a lecture with subsequent discussion.

Practical Sports Presentation

¹In a practical sports presentation, students prove their demonstration and movement skills. ²Depending on the field of experience and the learning area, the presentation may include sports-specific techniques and tactics, coordinative-rhythmic, -technical, or conditional foundations. ³A variable gaming ability or capacity to act, presented under situational conditions, may likewise be assessed under this form of examination. ⁴The respective form and duration of the presentation are determined by agreement. ⁵Sentences 2 to 5 of the definition of oral examinations shall apply accordingly.

Impromptu

¹An impromptu is meant to test the ability of independent research and of creative and/or scientific analytical work under time pressure. ²As a result, a draft or a plan/planning is prepared, dealing with a subject-specific or interdisciplinary task from a conceptual point of view, with particular regard to subject-related aspects. ³The processing time of a one-day impromptu is 24 hours, the processing time of a one-week impromptu is seven days.

Student Research Papers

¹A student research paper includes the treatment of a subject-specific or interdisciplinary issue under theoretical, experimental or constructive aspects, as well as the presentation and explanation of the solutions developed, in a way usual for the professional activity. ²The scope of the work is specified (in months or hours) in a binding manner in the

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Attachment. ³The topic of a project thesis may be proposed by each professor of the [...]. ⁴With the approval by the dean of studies or the examination board, the topic may likewise be proposed by a professor who is not a member of the [...]. ⁵If applicable, the dean of studies or the examination board may decide upon a list with first-examiner restriction. ⁶The topic of the research paper is determined by the examiner after having heard the examinee. ⁷The assignment of the topic is made via the dean of studies or the chair of the examination board, or the respective entity appointed by the examination board; the assignment has to be recorded. ⁸The task and a processing schedule must have been defined with the assignment of the topic. ⁹During the preparation of the paper, the examinee shall be supported by the examiner. ¹⁰The period from the assignment of the topic until the delivery of the research paper is six months. ¹¹The topic of the paper may be returned just once and only within the first eight weeks of the processing time. ¹²The paper has to be delivered in duplicate within the time limit, to be submitted to the entity appointed by the examination board; the date of delivery must be recorded. ¹³The assessment may likewise include taking into account the course of processing. ¹⁴As a rule, the paper has to be assessed within four weeks after having been submitted.

Practical Theatrical Presentation

¹A practical theatrical presentation is the display of practical theatrical work, either in a process-oriented or product-oriented form, before an audience. ²Sentences 2 to 5 of the definition of oral examinations shall apply accordingly.

Exercises

¹As an examination performance, an exercise is conducted under supervision during a given exercise time within the curriculum. ²To pass the examination, a certain share of the tasks has to be solved, as required by the lecturer.

Course Design

¹A course design is meant to include the independent planning and implementation of a lesson in an internship completed at a special school, or in an inclusive setting. ²The lesson is examined and assessed by a mentor and by the leader of the preparatory seminar course.

Oral Presentation

¹In an oral presentation, the examinee shall prove to be able to present scientific issues briefly and precisely and to defend the position in a critical scientific discussion. ²To ensure an objective assessment, the examinee has to submit to the respective lecturer in charge of the course, if so requested, a manuscript of the oral presentation before delivering the oral presentation.

Graphic Representation

¹Graphic representations are meant to explain, clarify and present the work of design and planning. ²Depending on the task and thematic focus, they are prepared in different standards and techniques.

Complex Examination Performance

¹A complex examination performance is made up of up to five components. ²The components may, for example, be a written test, an oral examination, a practical course, or a term paper. ³Regulations on passing a complex examination performance are specified in § 17 Sec. 3.

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Attachment 2.2.: Glossary of Examination Performances

A	Aufsatz (Article)
AA	Ausarbeitung (Composition)
BA	Bachelor's Thesis
BÜ	Bestimmungsübungen (Identification Courses)
DO	Dokumentation (Documentation)
ES	Essay
EX	Experimental Seminar
FP	Fachpraktische Prüfung (Practical Examination)
FS	Fallstudie (Case Study)
HA	Hausarbeit (Term Paper)
K	Klausur ohne Antwortwahlverfahren (Written Test Without Choice Format)
KA	Klausur mit Antwortwahlverfahren (Written Test With Choice Format)
KO	Kolloquium (Colloquium)
KP	Künstlerische Präsentation (Artistic Presentation)
KU	Kurzarbeit (Short Assignment)
KW	Künstlerisch-wissenschaftliche Präsentation (Artistic and Scientific Presentation)
LÜ	Laborübungen (Laboratory Exercises)
ME	Musikalische Erarbeitung in einer Lerngruppe (Musical Elaboration in a Learning Group)
ML	Master-Kolloquium (Master's Colloquium)
MO	Models
MP	Mündliche Prüfung (Oral Examination)
MU	Musikpraktische Präsentation (Practical Musical Presentation)
MK	Musikpädagogisch-praktische Präsentation (Practical Music-Teaching Presentation)
P	Projektarbeit (Project)
PD	Planung und Durchführung einer Lehrveranstaltungseinheit (Planning and Implementation of a Teaching Unit)
PF	Portfolio
PK	Pädagogisch orientiertes Konzert (Pedagogic-oriented Concert)
PR	Presentation
PW	Planwerk (Planning)
R	Referat (Lecture)
SA	Seminararbeit (Seminar Paper)
SG	Stegreif (Impromptu)
SL	Seminarleistung (Seminar Performance)
SP	Sportpraktische Präsentation (Practical Sports Presentation)
ST	Studienarbeiten (Student Research Papers)
TP	Theaterpraktische Präsentation (Practical Theatrical Presentation)
uK	unbenotete Klausur (ungraded Written Test)
U	Unterrichtsgestaltung (Course Design)
Ü	Übungen (Exercises)
V	Vortrag (Oral Presentation)
ZD	Zeichnerische Darstellung (Graphic Representation)
ZP	Zusammengesetzte Prüfungsleistung (Complex Examination Performance)