

## Reading version

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## Examination regulations for the Master's Program Subsurface Engineering at the Ruhr-University Bochum of October 14, 2022

Based on §§ 2 para. 4, 64 of the Law on Higher Education Institutions of the State of North Rhine-Westphalia (Higher Education Act - HG) of 16.09.2014 (GV.NRW p.547), last amended by Article 1 of the Law on Further Amendments to the Higher Education Act and the Higher Education Act for the Arts of 25 November 2021 (GV. NRW. p. 1209a), the Ruhr-Universität Bochum has issued the following examination regulations:

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## **I. General**

### **§ 1 Scope and Aim of the Program**

- (1) These examination regulations apply to the Master's program in Subsurface Engineering.
- (2) Subsurface Engineering is an interdisciplinary engineering science that encompasses civil engineering and geosciences in particular, but also aspects of mechanical engineering, and is oriented towards all aspects of the use of the subsurface. These include underground infrastructures for transport and pipeline systems, exploration and extraction of sustainable energy from underground resources, and underground storage and the associated economic and legal aspects. The aim of the program is to provide comprehensive, state-of-the-art, high-level competencies in all aspects of subsurface engineering. The students are able to use and further develop the methods taught with individual emphasis independently and responsibly for complex engineering activities. The Master's program thus leads to a professional qualification that is necessary for working in research and development with management responsibility. It also provides the necessary knowledge for academic work at a doctorate level.
- (3) The Master's examination determines whether the candidates have acquired sound knowledge and the ability to independently apply challenging scientific methods. Furthermore, it is determined whether they are able to critically classify scientific findings and to think and act in a responsible, interdisciplinary manner.
- (4) The courses of the Master's program are usually held in English.

### **§ 2 Academic Degrees**

If the Master's examination is passed, the Faculty of Civil and Environmental Engineering and the Faculty of Geosciences award the academic degree of "Master of Science", abbreviated as "M.Sc."

### **§ 3 Admission to the Program**

- (1) Admission to the Master's program in Subsurface Engineering is open to students who have a qualified Bachelor's degree in Geosciences of at least six semesters or a Bachelor's degree in Civil Engineering of at least six semesters with 180 CP or a comparable degree program from a scientific university. A degree is considered qualified if the applicant has completed the Bachelor's program with the overall grade of good or very good and the equivalence or comparability of the degree is determined by the examination committee. The examination committee decides on exceptions. Application deadlines are published on the homepage of the program.

- (2) Applicants who have not acquired their study qualification or bachelor's degree at an English-speaking institution or who have English as their native language must provide evidence of knowledge of the English language at level B2 of the Common European Framework of Reference for Languages. The following certificates are accepted: TOEFL 550 (written), 215 (computer-based), 79 (internet-based) or IELTS. 6.0 or better. In exceptional cases, other equivalent certificates may be recognized by the examination committee.
- (3) A further admission requirement is proof that the Bachelor's degree submitted contains method and research-oriented content of at least 40 CP from the fields of natural sciences (mathematics, physics, chemistry), mechanics / fluid mechanics and computer science / programming. Admission to the Master's program in Subsurface Engineering may be subject to conditions, provided that these do not exceed 30 CP. The requirements and the time of completion are determined by the examination committee. A provisional admission is granted for the period in which the requirements are fulfilled. Registration for Master's examinations after the third semester and for the Master's thesis is only permitted with fully passed requirements. The examination committee shall decide on exceptions on the basis of a justified application.
- (4) Agreements between universities shall be taken into account by the examination committee when determining equivalence.
- (5) Applicants who have finally failed the Bachelor's, Master's, preliminary diploma or diploma examination in geosciences, in civil engineering or in a related or comparable degree program at a scientific university or who has been excluded from a degree program due to deception or misdemeanor, cannot be admitted to the Master's programme.

#### **§ 4 Standard Period of Study, Start of Studies and Scope of Studies**

- (1) The general standard period of study up to the attainment of the Master's degree is four semesters including the preparation of the Master's thesis.
- (2) The program generally begins in the winter semester.
- (3) The scope of study amounts to a total of 120 credit points (CP). One credit point corresponds to an average workload of 30 hours. The degree program consists of compulsory modules worth 33 CP, compulsory optional modules worth 48 CP, optional modules worth 9 CP and the Master's thesis worth 30 CP.
- (4) The degree program is divided into the two specializations "Geotechnics and Tunneling (GT)" and "Subsurface Characterization and Utilization (SCU)" according to the research focus of the participating faculties.

## § 5 Modules, Curriculum, Course Forms, Compulsory Attendance

- (1) The program has a modular structure.
- (2) A module is a teaching and learning unit which is self-contained in terms of content and time and which is successfully completed by passing the associated module examination. A module may consist of several courses. A module generally should last one semester, at most two. The individual modules contain the teaching or development of a subject area and the corresponding competencies. All modules can be found in the current version of the curriculum and the module handbook, which is available on the homepage of the degree program. The study and examination achievements in the individual modules are evaluated according to § 8.
- (3) In the course of a compulsory study consultation within the first semester of the Master's program, the students develop an individual study plan. It usually covers individually selectable compulsory optional modules from the chosen specialization as well as optional modules. The study plan is deposited in the examination office. It can be changed once until the end of the third semester. If there are reasons for which the student cannot be held responsible, the examination committee may allow further changes upon application by the student.
- (4) One of the offered specializations must be chosen. The choice of the specialization is made with the application for the Master's program, at the latest, however, when the study plan is developed in accordance with paragraph 3.
- (5) The specialization can be changed once upon informal application to the examination committee.
- (6) The following types of courses are offered as part of the modularized curriculum: Lecture, exercise, practical courses, project, seminar, colloquium and excursion.
  - i. In lectures, the areas of the subject are presented in an exemplary and systematic manner. They provide an overview of problem contexts.
  - ii. Exercises serve to deepen subject knowledge and to acquire subject-specific skills and abilities on the basis of exemplary topics.
  - iii. Practical courses are courses in which a participant conducts his or her own experiments on given topics and is evaluated by the instructor of the practical course. The experiments can be carried out in groups.
  - iv. Projects are events with a special organizational form, in which a task is to be worked on and solved under supervision, if necessary in group work. The documentation and presentation of results should be learned.
  - v. Seminars serve to deepen scientific knowledge and can be offered on any topic of the subject area. They teach academic work within the thematic focus of the seminar. Their main features is a high degree of interactivity between teachers and students.
  - vi. Colloquia serve the in-depth discussion of selected academic questions.
  - vii. Excursions offer the opportunity to get to know central research facilities / natural and architectural monuments as well as construction projects in Germany and abroad / to deepen and illustrate knowledge directly in the field or in practical applications.

Among other things, they serve to practice empirical-practical forms of work and learning. They can be assigned to other types of courses.

- (7) Regular attendance may be required for courses whose learning objective cannot be achieved without the active participation of the students. Regular attendance means that, as a rule, at least 75 percent of all offered dates must be attended. The actual respective attendance requirement is shown and justified in the module description in the module handbook.

## **§ 6 Examinations and Examination Results**

- (1) With the exception of the written Master's thesis, examinations are graded or ungraded module examinations in accordance with the study plan. Examinations may take the form of written examinations, oral examinations, the completion of tasks set during the semester, term papers, project work, seminar papers, reports or colloquium presentations. Upon application, the examination committee may permit other, alternative examination formats. The final form of the examination performance in the case of alternative possibilities and the permitted aids will be announced at the beginning of the semester in which the module takes place.
- (2) In a written examination, the student should prove that he or she is able to work properly on tasks from the area of the course to which the written examination relates in a limited amount of time and with limited aids, and that he or she is able to find suitable solutions. Written examinations can be taken in electronic form and by electronic communication. The duration of a written examination is determined by the examiner, taking into account the subject content and the CP planned for the module, and is between one and three hours.
- (3) In an oral examination, the candidate should demonstrate that he or she has sufficient knowledge of the examination area, recognizes correlations and can place special questions in these correlations. Oral examinations should last between 15 and 45 minutes per candidate. They can be taken by electronic communication. They are taken before two examiners or before one examiner in the presence of a competent observer as an individual examination or group examination with up to four students. Before determining the assessment, the examiner shall hear the observer. The essential subjects and results of the oral examination are to be recorded in a protocol. The transcripts and sketches made in the course of the examination shall be part of the protocol.
- (4) Course-related assignments (e.g. homework, term papers or weekly assignments) take place parallel to the course in the same semester. The assignments may be spread over several dates in the semester and may be written or oral. The assessment of the students' performance is the responsibility of the course instructor. In this context, group performances may also be permitted by the course instructor if an individual assessment of the share of each group member is possible.
- (5) A project work represents the independent processing of a set topic. In this case, group performances can also be admitted by the course instructor if an individual assessment of the share of each group member is possible. The performance to be achieved

is to be defined by the course instructor at the beginning of the course. The individual performance of each student shall be evaluated individually.

- (6) Seminar contributions are performances on a given framework topic by a participant in the form of a lecture and, if applicable, an explained graphic presentation to the group of participants in the seminar and are evaluated by the seminar leader. The examination performance for a seminar is completed when the student has given his or her own presentation and participated in the previously determined number of individual appointments for the discussion of the seminar contributions. The seminar is not passed if the performance is not at least sufficient (50%) or the student has not participated in the previously determined number of individual appointments and has not or not successfully used the opportunity to make up the missed individual appointments.
- (7) Reports serve to document, evaluate and assess exercises carried out in the field, experiments carried out in the laboratory (e.g. as part of a practical course) or visits as part of excursions. The examination performance is achieved if the performance is at least sufficient (50 %), the student has submitted the reports on time, has participated in the previously determined number of individual appointments and has successfully used the possibility to make up missed individual appointments.
- (8) Colloquium presentations are performances in which students present the contents and most important results of an academic paper (e.g. their final thesis) to a professional audience. Colloquia are open to the faculty.
- (9) The type, extent and evaluation (graded/ungraded) of the examinations are part of the module handbook in its current version. The module handbook is available on the homepage of the degree program.
- (10) For examinations, the use of multiple-choice procedures is permitted in agreement with the examination committee. In multiple-choice procedures, there are predetermined answer options with one or more correct solution options. Marking individual incorrect answers will result in the answer as a whole being assessed as incorrect.
- (11) The form of the module examination and the registration modalities including the deadlines are announced by the course instructor at the beginning of the first course of the module.
- (12) In each academic year, module examinations (in particular written examinations and examination discussions) are offered on two regular dates. The examination committee may make special arrangements for examinations accompanying courses (e.g. in the context of practical courses and seminars). Furthermore, the examination committee may determine the offer of additional examination dates.
- (13) The examination dates of a semester shall be determined and published by the examination committee at the beginning of the semester at the latest.
- (14) Examinations are generally held in English. In agreement with the lecturer, examinations may also be held in German.

## **§ 7 Registration for and Deregistration from Examinations, Compensation for Disadvantages and Legal Protection Regulations**

- (1) Students must register independently for all examinations components and the Master's thesis. The deadlines for registering for examinations are set and published by the examination committee at the beginning of the semester. Students must be regularly enrolled to take an examination.
- (2) Independent registration for examinations of the compulsory modules must take place for the first time in the 2nd semester at the latest for the compulsory modules of the 1st semester. Otherwise, the registration will take place automatically for the examination phase in the 3rd semester.
- (3) If a module examination of a compulsory module is not passed, the registration for the repeat examination takes place automatically at the next possible regular date.
- (4) If, in deviation from § 6 Para. 12, an additional examination date is offered in addition to the regular examination dates, the student must also register independently. Participation counts as one examination attempt.
- (5) Registration for a module examination is only permitted if the prerequisites defined in the current version of the module handbook have been successfully completed.
- (6) If a student does not participate in a registered examination without a valid reason, this examination will be graded as "fail" unless the student has deregistered from the examination in due time.
- (7) Students may deregister from any examination on their own without giving reasons. The deregistration period ends seven days before the respective examination date.
- (8) If non-participation in an examination is due to illness, this must be documented by a medical certificate confirming the inability to take the examination at the time of the examination. Certificates are to be submitted to the examination office immediately after the corresponding examination, but no later than one week after the examination date. In addition, the examination committee may determine in justified cases of doubt that the submission of a certificate from a medical officer of the Ruhr-University is required. If the examination committee recognizes the reasons for the absence, the examination in question will not be counted towards the maximum number of module examination attempts.
- (9) If a candidate provides a medical certificate showing that he or she is unable to take all or part of an examination in the prescribed form due to a prolonged or permanent physical or mental disability, the chairperson of the examination committee shall allow the candidate to take equivalent examinations in another form.
- (10) The statutory maternity protection regulations and periods, the periods of parental leave and the periods of absence due to the care and upbringing of children within the meaning of Section 25 (5) of the Federal Training Assistance Act (BAföG) and due to the care of the spouse, the registered partner or a relative in the direct line or first-degree relative by marriage shall be taken into account.



- (II) The automatic registration of examinations or for the repetition of the Master's thesis shall be suspended on application
- a) for the care and upbringing of minor children within the meaning of Section 25 (5) of the Federal Training Assistance Act by three semesters per child,
  - b) for involvement as an elected representative in institutions of the university, the student body, the departmental student committees or the student unions by a total of up to a maximum of four semesters,
  - c) for the holding of the office of the Equal Opportunity Officer by up to a maximum of four semesters,
  - d) for the period of time during which the effects of a disability or serious illness extend the duration of studies, and
  - e) by up to three semesters for the time during which students take on responsibility for close relatives with care and support needs.

### § 8 Assessment of Examinations

- (1) The assessment of examination performance shall be based on the percentage point system.
- (2) An examination is passed if at least fifty percentage points are achieved.
- (3) Examination performances with an assessment of less than fifty percentage points may be repeated in accordance with § 10, para. 1.
- (4) The scheme on which the award of percentage points is based must be documented in the examination documents.
- (5) The assessment results of written examinations, seminar papers and written reports shall be made available to the candidate by electronic media of the RUB no later than six weeks after taking the examination, taking into account the data protection regulations.
- (6) Each module examination is assigned a weighting factor. The amount of the weighting factor corresponds to the scope of the module in CP.
- (7) The gradation of the evaluation and the grade designation are shown in the table below.

Percentage point value	in words (German)	in words (English)	Third grade
96-100	ausgezeichnet	excellent	0.7
91-95	sehr gut	very good	1.0
86-90	sehr gut	very good	1.3

81-85	gut	good	1.7
76-80	gut	good	2.0
72-75	gut	good	2.3
68-71	befriedigend	satisfactory	2.7
64-67	befriedigend	satisfactory	3.0
59-63	befriedigend	satisfactory	3.3
54-58	ausreichend	sufficient	3.7
50-53	ausreichend	sufficient	4.0
0-49	nicht ausreichend	fail	5.0

- (8) A written examination with exclusively multiple choice tasks is considered to be passed if at least 60 % of the questions asked have been answered correctly or if at least 60 % of the total number of achievable points have been achieved. The awarding of negative points is not permitted.

If the candidate has answered the minimum number of questions correctly and has thus passed the examination thus passed the examination, the grade is as follows:

- "very good" (0.7), if she or he scores at least 98%,
- "very good" (1.0), if he or she achieves at least 94% but less than 98%,
- "very good" (1.3), if she or he is at least 90% but less than 94%,
- "good" (1.7), if he or she achieves at least 86% but less than 90%,
- "good" (2.0) if she or he is at least 82% but less than 86%,
- "good" (2.3), if he or she achieves at least 78% but less than 82%,
- "satisfactory" (2.7) if she or he is at least 74% but less than 78%,
- "satisfactory" (3.0) if she or he is at least 71% but less than 74%,
- satisfactory" (3.3), if he or she achieves at least 67% but less than 71%,
- sufficient" (3.7), if he or she achieves at least 63% but less than 67%,
- sufficient" (4.0), if he or she achieves at least 60% but less than 63%

If he or she does not achieve the required number of points, the grade will be "fail". (5.0).

- (9) If an examination consists of multiple-choice tasks as well as other tasks, the multiple-choice tasks shall be graded in accordance with Paragraph 3. The other tasks shall be assessed according to the usual procedure for them. The grade is calculated from the

weighted results of both parts of the assignment. The weighting is based on the points to be achieved for the points to be achieved for the task types.

### **§ 9 Credit Points**

- (1) Credit points are awarded for successfully completed modules. The sum of the achieved credit points serves as an indication of the extent of the successfully completed study workload.
- (2) Credit points (CP) correspond to the credits of the "European Credit Transfer and Accumulation System" (ECTS). The number of CP to be acquired through a module is calculated from the student workload, which is the amount of time students spend on study and examination work, including preparation and follow-up work (self-study) and taking examinations. One CP corresponds to the estimated workload of approximately 30 hours. One semester comprises 30 CP.
- (3) The total amount of credits in the Master's program is 120. The credits are divided equally between the two academic years of the program.

### **§ 10 Retaking of Examinations**

- (1) A failed module examination may be repeated. A maximum of three examination attempts is permitted. This does not apply to the Master's thesis, which can be repeated if the student fails (see § 18, Para. 4). If a module examination is not passed even after three examination attempts (two repetitions), the module examination is considered as finally not passed. If a module examination is finally not passed, the Master's examination is finally not passed.
- (2) It is generally not permitted to repeat a passed module examination. Upon request, the examination committee may allow students a one-time improvement attempt for a maximum of three passed module examinations. The best result counts. If a grade improvement is not attended (deregistration or attestation), it can only be claimed again for the same examination. If a grade improvement is graded "fail" due to absence, the improvement attempt is thereby forfeited. The last opportunity for grade improvement is in the semester in which the Master's examination was passed.
- (3) In the case of failure of a written repeat examination, a supplementary examination in the form of an oral examination may be offered in accordance with § 6 Para. 3. This shall only apply to the second written examination attempt. If the oral supplementary examination is passed, the overall grade "sufficient" (4.0) is awarded for the corresponding examination attempt. The examination committee shall decide on the offer of supplementary oral examinations.
- (4) Repeats of written or oral examinations for which no compensation is possible are to be assessed by at least two examiners.

## § II Examination Committee

- (1) The faculties involved in the study program shall form a joint examination committee for the organization of the examinations and the tasks assigned by these examination regulations,. The examination committee consists of the chairperson, his/her deputy and five other members with voting rights. The chairperson, the deputy chairperson and two other members are elected from the group of professors, one member is elected from the group of academic staff and two members are elected from the group of students. The members of the group of professors are equally composed of the two participating faculties. Representatives are elected for the members of the examination committee. The term of office of the members from the group of professors and from the group of academic staff is three years, the term of office of the student members is one year. Re-election is permitted.
- (2) The examination committee is an authority in the sense of administrative procedure and administrative procedural law.
- (3) The examination committee shall ensure that the provisions of the examination regulations are observed and shall ensure that the examinations are conducted properly. In particular, it is responsible for deciding on appeals against decisions made in examination procedures and for ensuring that deadlines are met. In addition, the examination committee shall report regularly, at least once a year, to the faculties involved on the development of examinations and study periods. This report is to be published in an appropriate form. It shall make suggestions for reforming the examination regulations and the study plan and shall disclose the distribution of grades and overall grades. The examination committee may delegate the performance of its duties to the chairperson for all regular cases. This does not apply to appeals and the report to the faculty.
- (4) The examination committee has a quorum if, in addition to the chairperson or deputy chairperson, at least two other university lecturers and at least two other members with voting rights are present. It decides by simple majority. In the event of a tie, the chairperson has the casting vote. The student members of the examination committee do not participate in the evaluation and crediting of academic achievements and examinations, the determination of examination tasks and the appointment of examiners and assessors.
- (5) The members of the examination committee have the right to attend the taking of examinations.
- (6) The meetings of the examination committee are not public. They shall generally be held once per semester. The members of the examination committee and the representatives are subject to official secrecy. If they are not in public service, they must be sworn to secrecy by the chairperson. Minutes shall be taken of the discussions of the examination committee.
- (7) The examination committee may maintain an electronic database for the organization of examination matters within the framework of the statutory security provisions.
- (8) The examination committee may avail itself of the administrative assistance of the Examination Office in the performance of its duties.

## **§ 12 Examiners and Assessors**

- (1) The examination committee shall appoint the examiners from among the persons entitled to take the examinations and the assessors. Only those persons may be appointed as examiners and assessors who have acquired at least the academic qualification corresponding to the respective subject of the examination.
- (2) The examiners shall be independent in their work.
- (3) The candidate may propose the examiner for the Master's thesis. The candidate's suggestions shall be taken into consideration if possible. However, the suggestions do not constitute a claim.
- (4) The chairperson of the examination committee shall ensure that the names of the examiners are made known to the candidates in good time, at least two weeks before the date of the respective examination, taking into account the principles of data protection.

## **§ 13 Crediting and Recognition of Periods of Study, Course Credits and Examination Results**

- (1) Examination results obtained in degree program at other state or state-recognized institutions of higher education, at state or state-recognized universities of cooperative education, in a degree program at foreign state or state-recognized institutions of higher education, or in another degree program at the same institution of higher education, shall be recognized upon request, provided that there is no substantial difference between the acquired competencies and the achievements which are being replaced; an examination of equivalence shall not take place. Recognition within the meaning of sentence 1 shall serve the continuation of studies and the taking of examinations.
- (2) Substantial differences exist in particular if the acquired competences do not correspond to the requirements of the Master's program in Subsurface Engineering. In this case, no schematic comparison is to be made, but rather an overall consideration and evaluation. The equivalence agreements approved by the Standing Conference of the Ministers of Education (Kultusministerkonferenz) as well as agreements within the framework of the university partnership are to be taken into account for the recognition or crediting of periods of study, academic achievements and examination results obtained outside the jurisdiction of the German Basic Law. In case of doubt, the International Office and the Central Office for Foreign Education may be consulted.
- (3) Upon request, other knowledge and qualifications acquired outside of the university can be recognized up to a maximum of 10% of the credit points provided for this degree program, if this knowledge and qualifications are equivalent in content and level to the examination achievements they are to replace.

- (4) The examination committee shall be responsible for credits or recognition according to paragraphs 1 and 3. A subject representative shall generally be heard before determining whether there are significant differences. The student must submit the documents required for the credit. Following submission of the complete documents, a notice is issued, which must be accompanied by instructions on how to appeal, usually within 6 weeks. If the recognition desired based on an application as defined by paragraph 1 is unsuccessful, the person submitting the application can request a review of the decision by the rectorate without prejudice to the procedural or procedural deadlines.
- (5) If the requirements of paragraphs 1 and 2 are met, the applicant shall have a legal claim to recognition.
- (6) Crediting of periods of study and achievements according to the above paragraphs can only be granted up to a maximum of 50% of the credit points of the compulsory, compulsory optional and optional modules provided for the program. In the event of a change of university or degree program, the recognition of a thesis is generally excluded.

#### **§ 14 Absence, Withdrawal, Attempt to deceive, Breach of Regulations**

- (1) An examination performance shall be assessed with 0 percentage points or "fail" if the candidate misses an examination date without good reason or if he or she withdraws from the examination without good reason after the examination has begun. The same applies if a written examination performance is not completed within the specified processing time.
- (2) The reasons asserted for the withdrawal or the failure to attend must be reported to the examination committee in written form without delay and must be made credible. In the case of illness of the candidate, the submission of a doctor's certificate and, in cases of doubt, the certificate of a medical officer of the RUB is required. The illness of a child who is predominantly to be cared for alone is equivalent to the illness of the candidate. If the examination committee recognizes the reasons for the absence, the examination in question shall not be counted towards the maximum number of examination attempts.
- (3) If the candidate attempts to influence the result of an examination performance by deception, the examination component in question shall be assessed with 0 percentage points; the actual determination shall be made by the respective examiner in the case of oral examinations, and by the invigilator in the case of written examinations, and shall be recorded in the minutes. The assessment is made by the examination committee. In the event of multiple or other serious attempts at cheating, the candidate may be excluded from taking further examinations or exmatriculated after a prior hearing. The provision of unauthorized aids during the examination is also considered an attempt to deceive. Permitted and non-permitted aids will be announced by the lecturer before the respective examination.

- (4) A candidate who disturbs the orderly conduct of the examination can be excluded from continuing the examination performance by the respective examiners or the supervisors, as a rule after a warning. In this case, the examination in question will be graded as "fail". The reasons for the exclusion are to be recorded.
- (5) Plagiarism is a deception according to paragraph 3.
- (6) The software-based inspection of written examinations, including the Master's thesis, shall be carried out on a regular basis if there is a suspicion of plagiarism. For this purpose, Master's theses in accordance with § 17 Para. 1 are to be submitted in verifiable electronic form. Other written examination papers (term papers, etc.) must also be submitted in verifiable electronic form at the request of the examiner.
- (7) The software-based examination is carried out by the examiner. Plagiarism is detected by the examination committee. The student will only be informed about the software-supported inspection of the written work if plagiarism is suspected.
- (8) In the case of written examinations - with the exception of examinations under supervision - the candidate must affirm that he or she has performed the examination without unauthorized outside assistance.
- (9) The candidate must be informed immediately in written form of any adverse decisions made in accordance with Paragraph 3, the reasons for such decisions must be stated, and the candidate must be provided with instructions on how to appeal.

## **II Master's Examination**

### **§ 15 Aim, Type and Scope of the Master's Examination**

- (1) The Master's examination is taken by successful completion of the modules of the Master's program specified in the objective agreement. It consists of the cumulative assessment of all module examinations in the selected modules as well as the Master's thesis (§ 17).
- (2) The Master's thesis should be written in the 4th semester of the Master's program.
- (3) The sum of the credit points of all modules (without the Master thesis) is at least 90.

### **§ 16 Admission to the Master's Thesis**

- (1) Students may be admitted to the Master's thesis if they are
  - i. enrolled in the Master's program in Subsurface Engineering at the RUB or have been admitted as a visiting student,
  - ii. not in a similar examination procedure at another university and have not finally passed or failed a similar examination, and
  - iii. have successfully completed modules with a workload of at least 70 CP.

- (2) The application for admission to the Master's thesis shall be submitted in written form to the chairperson of the examination committee together with the required certification according to paragraph 1.
- (3) If the requirements in Paragraphs 1 and 2 are not met, admission to the Master's thesis will not be granted.

### **§ 17 Master's Thesis**

- (1) The Master's thesis is a written examination paper and concludes the academic education. It is intended to show that the candidate is able to work independently on a scientific problem related to the degree program using scientific methods within a specified period of time. It has a scope of 30 CP and can be written in German or English. The Master's thesis includes a presentation. The presentation is included in the evaluation of the Master thesis.
- (2) The candidate has the right to propose the topic and the supervisor of the Master's thesis. The Master's thesis can be given and supervised by any habilitated or appointed teacher of the Faculty of Civil and Environmental Engineering or the Faculty of Geosciences. It can also be supervised by non-habilitated staff members if they have been appointed as examiners. Supervision by a professor or lecturer who is not a member of either faculty is also possible; this requires the approval of the chairperson of the examination committee or his/her deputy.
- (3) The issue of the topic with the associated assignment is carried out by the chairperson of the examination committee. The time of issue is to be recorded in the examination office. A Master's thesis assignment approved by the examination committee and communicated to the student may not be changed unilaterally.
- (4) Upon request, the chairperson of the examination committee shall ensure that the candidate receives a topic for a Master's thesis.
- (5) The processing time for the Master's thesis is six months. The topic, task and scope of the Master's thesis shall be limited in such a way that the deadline for the preparation of the Master's thesis can be met. The topic can only be returned once and only within the first month of the processing period. In individual cases, the examination committee may, upon justified request of the candidate, exceptionally extend the processing time as an exception by a period of up to six weeks. In case of illness or reasons not justifiable by the candidate, the deadline for submission can be extended. In the case of illness, the submission of a medical certificate is required, in cases of doubt a certificate from a medical officer of the RUB. The extension corresponds to the period of illness. If the period of illness exceeds four weeks, the candidate will be given a new topic; the new attempt will not count towards the maximum number of repetitions of the Master's thesis according to § 18, Para. 4. In total, the processing time can thus be extended by a maximum of ten weeks. The examination committee shall decide on justified exceptions.



- (6) When handing in the Master's thesis, the candidate must provide an assurance in writing that he or she has written his or her thesis independently and has not used any sources or aids other than those indicated, and has marked citations.

### **§ 18 Acceptance and Assessment of the Master's Thesis**

- (1) The Master's thesis must be submitted to the examinations office in a single bound copy as well as in verifiable electronic form within the specified time; the time of submission must be recorded in the files. If the Master's thesis is not handed in on time, it is considered to have been assessed with 0 percentage points ("fail").
- (2) The Master's thesis shall be evaluated by two examiners. One of the examiners shall be the person selected for the topic and responsible supervision of the Master's thesis. The second examining person must be a member of the group of persons specified in § 12 Para. 1 and shall be appointed by the chairperson of the examination committee, whereby § 12 Para. 2 shall apply accordingly. At least one of the examining persons should belong to one of the two faculties involved. The individual evaluation is to be made according to the percentage point system and justified in writing. The overall evaluation of the Master's thesis is formed from the arithmetic mean of the individual evaluations. In the event of differences of more than 20 percentage points in the individual evaluations, the examination committee shall determine the overall evaluation. If necessary, a third examiner will be appointed.
- (3) The Master's thesis is passed if the overall evaluation reaches 50 percentage points. When determining the overall grade of the Master's program, the overall grade of the Master's thesis is weighted 30 times.
- (4) If the overall evaluation of the Master's thesis, including the presentation, reaches less than 50 percentage points, it can be repeated once. The repetition must take place at the latest in the semester following the failure, taking into account paragraph 5. A second repetition is excluded. Failed attempts at other universities are to be credited. The chairperson of the examination committee shall notify the candidate of this in writing. The notification of a failed Master's thesis must be accompanied by instructions on how to appeal.

### **§ 19 Passing the Master's Examination**

- (1) The Master's examination is passed if the evaluation in each required module has reached at least 50 percentage points and the evaluation of the Master's thesis including the presentation has reached at least 50 percentage points.
- (2) The overall evaluation and overall grade of the Master's examination result from the weighted averaging of the completed modules and the Master's thesis in accordance with § 8 Para. 6 and § 18 Para. 3.

### III. Final Provisions

#### § 20 Certificate, Diploma Supplement and Transcripts

- (1) Upon passing the Master's examination, the graduate shall receive a certificate in German and a copy in English. The overall grade, the title, the grade of the thesis in percentage points, the chosen specialization as well as the individual module evaluations in percentage points and their achieved credit points are included in the certificate. In the case of ungraded modules, only the assessment "passed" is recorded in addition to the module name and the scope (CP). The certificate bears the date of the last examination. In the case of the final thesis, this is the date of submission. It also bears the date of issue. The certificate shall be signed by the chairperson of the examination committee.
- (2) Together with the certificate, the graduate shall receive the Master's diploma. It shall certify the award of the academic degree and the professional title in accordance with § 2. The certificate shall bear the date of the last examination and the date of issue. The Master's diploma is signed by the deans of the Faculty of Civil and Environmental Engineering and the Faculty of Geosciences or the deputy and bears the seals of both faculties. The certificate is issued bilingually, in English and German.
- (3) Together with the certificate, the graduate will also receive a Diploma Supplement written in English, including a Transcript of Records. The Diploma Supplement provides information on the individual subject profile of the completed degree program. The Diploma Supplement also shows the grade distribution of the degrees.
- (4) Students who leave the university without a degree will receive, upon request, a document on the total academic and examination achievements (Transcript of Records).

#### § Section 21 Invalidity of the Master's Examination, Revocation of Academic Degrees

- (1) If the candidate has cheated in an examination and this fact only becomes known after the certificate has been issued, the examination committee may subsequently correct the evaluations and grades for those examinations in the performance of which the cheating occurred accordingly and declare the examination wholly or partially as "fail".
- (2) If the requirements for admission to an examination were not fulfilled without the candidate intending to deceive, and if this fact only becomes known after the certificate has been issued, this defect shall be remedied by passing the examination. If the candidate has intentionally obtained admission unlawfully, the examination committee shall decide on the legal consequences in compliance with the Administrative Procedure Act for the State of North Rhine-Westphalia.
- (3) Before a decision is made, the person concerned must be given the opportunity to make a statement.
- (4) The incorrect examination certificate shall be withdrawn and, if necessary, a new one issued. A decision in accordance with paragraph 1 and paragraph 2, sentence 2, is only

permissible within five years of the date on which the degree was awarded. The period between the initiation and termination of administrative proceedings to examine the withdrawal of the degree conferral shall not be included in the five-year period pursuant to sentence 2.

- (5) If the examination has been declared as "fail" overall due to deception, the Master's degree shall be revoked and the Master's certificate shall be confiscated. The examination committee shall decide on the withdrawal.

### **§ Section 22 Inspection of the Examination Files**

- (1) After completion of the examination procedure, the candidate shall, upon request, be granted access to his/her examination file within a reasonable period of time.
- (2) The request must be submitted to the chairperson of the examination committee within one month after the examination certificate has been issued. The chairperson of the examination committee shall determine the place and time of inspection.

### **§ 23 Transitional Provisions**

- (1) These Examination Regulations shall apply to all students enrolling in the Master's program in Subsurface Engineering at the Ruhr-Universität Bochum from the winter semester 2022/2023 onwards.

### **§ 24 Entry into Force and Publication**

These examination regulations come into force on the day after their publication in the official announcements of the Ruhr-University Bochum.

Issued on the basis of the resolutions of the Advisory Board and the Faculty Council of the Faculty of Civil and Environmental Engineering of 25.08.2022 and the Faculty of Geosciences of 17.08.2022.

Bochum, October 14, 2022

The Rector

of the Ruhr-University Bochum

Prof. Dr. Dr. h.c. Martin Paul