

Examination Regulations for the Consecutive Master's Programme Advanced Computational and Civil Engineering Structural Studies – ACCESS

as of 22 October 2016

Pursuant to § 34 par. 1 sentence 1 of the *Gesetz über die Freiheit der Hochschulen im Freistaat Sachsen* [Law on the Freedom of HE Institutions in the Free State of Saxony] (*Sächsisches Hochschulfreiheitsgesetz - SächsHSFG*) as first published on 15 January 2013 (SächsGVBl. p. 3), last updated by section 11 of the Law on 29 April 2015 (SächsGVBl. pp. 349, 354), the Technische Universität Dresden enacts the following Examination Regulations as a statute.

Table of contents

Section 1: General provisions

- § 1 Standard period of study
- § 2 Examination structure
- § 3 Dates and deadlines
- § 4 General requirements for admission and admission procedures
- § 5 Types of exams
- § 6 Written exams
- § 7 Assigned papers
- § 8 Projects
- § 9 Other exams
- § 10 Evaluation of exams, calculation and weighting of grades, announcement of examination results
- § 11 Non-appearance, withdrawal, cheating, breach of regulations
- § 12 Pass and fail
- § 13 Free trial
- § 14 Resitting module examinations
- § 15 Recognition of assignments and exams, study periods and qualifications obtained outside a HE institution
- § 16 Board of Examiners
- § 17 Examiners and co-examiners
- § 18 Purpose of the Master's examination
- § 19 Purpose, issue, submission, evaluation and re-submission of the Master's thesis and colloquium
- § 20 Certificate of grades and Master degree certificate
- § 21 Invalid Master's examination

§ 22 Examination of exam records

Section 2: Subject-specific provisions

§ 23 Duration, structure and scope of studies

§ 24 Subject-related prerequisites for the Master's examination

§ 25 Subject, type and scope of the Master's examination

§ 26 Time for working on the Master's thesis and duration of the colloquium

§ 27 Master's degree

Section 3: Final provisions

§ 28 Coming into force and public notice

Section 1: General provisions

§ 1

Standard period of study

The regular time frame of semesters/standard period of study for the Master's programme Advanced Computational and Civil Engineering Structural Studies – ACCESS comprises module attendance, self-study and also the Master's examination.

§ 2

Examination structure

The Master's examination comprises the module examinations and also the Master's thesis and the colloquium. By taking a module exam the student completes a module. As a rule, it comprises an exam. The exams are taken throughout the course.

§ 3

Dates and deadlines

(1) Students are expected to pass the Master's examination within the standard period of study. Unless the Master's examination is passed within four semesters after the end of the standard period of study, the exam is considered a fail. A failed Master's examination can be retaken once within one year. After this deadline passed, the exam is assessed as fail once again. A second attempt is only possible at the next scheduled exam date. Afterwards the Master's examination is considered failed at the final attempt.

(2) It is necessary that module examinations are taken by the end of the semester that is defined in the curriculum structure.

(3) On the basis of the study regulations and the courses offered, the Technische Universität Dresden ensures that assignments and exams and also the Master's thesis and the colloquium can be accomplished within the defined periods of time. Students are informed in time about type, number and dates of assignments and exams, and also about the dates of issue and submission of the Master's thesis and the day and time of the colloquium. Students shall be informed about all opportunities they get to retake any of the module exams.

(4) During maternity and parental leave, periods do not begin to run. These periods of special leave do not count towards deadlines.

§ 4

General requirements for admission and admission procedures

- (1) The Master's examination can only be taken by students who
- 1 are enrolled in then Master's programme Advanced Computational and Civil Engineering Structural Studies – ACCESS at Technische Universität Dresden and
 - 2 have fulfilled the relevant subject-related prerequisites (§ 24) and
 3. have made a written declaration relating to par. 4 no. 3.

(2) For taking exams students must register. Later cancellation is possible without stating reasons. Registration procedures and deadlines are defined by the Board of Examiners and are publicly announced by the faculty in the known manner at the beginning of each semester.

(3) Students are admitted to

1. a module exam on the basis of the first registration for an exam within this module exam,
2. the Master's thesis because of the application for a thesis topic or, in case of § 19 par. 3 sentence 5, as the topic is handed over and
3. the colloquium if the Master's thesis was graded 'sufficient' (4.0) or better.

(4) Admission is denied if

1. the prerequisites mentioned in par. 1 or the rules of procedure in accordance with par. 2 are not fulfilled or
2. the papers are incomplete or
3. the students already failed an exam at the final attempt and this exam is prerequisite for the successful completion of the Master's programme Advanced Computational and Civil Engineering Structural Studies – ACCESS.

(5) The Board of Examiners decides on admission. Admission may be publicly announced. § 16 par. 4 shall remain unaffected.

§ 5 Types of exams

(1) Exams shall be completed as

- 1 written exams (§ 6),
- 2 assigned papers (§ 7),
- 3 projects (§ 8) and/or
- 4 other exams (§ 9).

There are no written exams of the multiple-choice type.

(2) Assignments and exams shall be completed in English.

(3) If a student can produce prima facie evidence that s/he is unable to either partly or entirely complete exams in the defined manner because of a long-time or permanent physical defect or chronic illness, the chair of the board of examiners will allow the student to take the exam within a longer period of time or in an equivalent manner. Students may be asked to produce a medical certificate from a doctor and, if there is reasonable doubt, evidence from a public health officer.

(4) If a student can produce prima facie evidence that s/he is unable to complete exams in the defined manner because s/he cares for own children, who are 14 years old or younger, or for close relatives, the chair of the board of examiners will accept applications to take exams in an equivalent manner. Close relatives are children, parents, grandparents, spouses and domestic partners. The chair of the board of examiners will decide on how the exam shall be completed by appointment with the responsible examiner according to their reasonably exercised discretion. Suitable measures to compensate for disadvantages are, e.g., extra time and breaks, use of alternative media, alternative exam locations within the university or alternative exam dates.

§ 6

Written exams

(1) Written exams are designed to show that students are able to solve tasks and work on topics on the basis of the necessary basic knowledge within a limited time frame and with the use of certain aids and making use of the common methods of the subject studied.

(2) Written exams, the passing of which is a prerequisite requirement for being allowed to continue studies, are assessed by two examiners as a rule, however always in case of the second and last attempt. The grade is calculated on the basis of the average of the individual grades pursuant to § 10 par. 1st. The evaluation procedure shall not take longer than four weeks.

(3) The module descriptions define the duration of written exams. The duration is 90 minutes minimum and 180 minutes maximum.

§ 7

Assigned papers

(1) Assigned papers are designed to demonstrate the student's skills to work on specific tasks using the subject-related literature and other sources within a limited time frame. Furthermore, they serve to find out if the student can manage the basic tools of scientific work. If the module descriptions indicate so, assigned papers also demonstrate the student's competence to present and discuss conclusive results in a defence of the assigned paper.

(2) § 6 par. 2 shall apply mutatis mutandis to assigned papers.

(3) The total of hours for assigned papers should not exceed 60 hours. The actual number of hours is defined in the module descriptions.

§ 8

Projects

(1) As a rule, projects are designed to demonstrate the student's ability to be part of a team and to show their skills for developing, realising and presenting concepts. Students are expected to demonstrate their ability to define goals in a complex task and to work out interdisciplinary solutions and concepts.

(2) § 6 par. 2 shall apply mutatis mutandis to projects.

(3) The module descriptions define the duration of projects which is 18 weeks as a maximum. § 26 par. 1 sentence 3 and 4 shall apply mutatis mutandis.

(4) If the project is done as a group task, there should be a clear distinction of each student's contribution for grading purposes and the requirements according to par. 1 should be fulfilled.

§ 9 Other exams

(1) The student shall complete the defined achievements by other exams, which can be evaluated on the same evaluation basis and which are mentioned in detail in the module descriptions together with the requirements and the indicated number of hours (hereinafter called other exams). Other exams are final reports of mentoring sessions that accompany the course.

(2) Final reports of mentoring sessions that accompany the course are formalised reports of the academic and methods competence students acquired in the mentoring process.

(3) For written other exams § 6 par. 2 shall apply mutatis mutandis.

§ 10 Evaluation of exams, calculation and weighting of grades, announcement of examination results

(1) The individual exams are evaluated by the examiners. The grades below shall be used:

| | |
|---------------|--|
| 1 = very good | = an excellent performance; |
| 2 = good | = a performance that stands out considerably from the average |
| 3 = average | = a performance that meets average requirements; |
| 4 = pass | = a performance that still meets the requirements despite some |
| 5 = fail | = a performance that does not meet the requirements because of its grave inadequacies. |

For a more detailed assessment, grades can be raised or lowered by 0.3 to obtain intermediate values; grades 0.7, 4.3, 4.7 and 5.3 cannot be given. A single exam is rated as 'passed' or 'failed' (ungraded exam) if the relevant module description provides for this as an exception. Ungraded exams that are rated as „passed“ do not enter further grade calculations; ungraded exams that are rated as „failed“ enter further grade calculations as grade 5 (fail);

(2) The module grade is calculated from the average of the grades given for the exams of the module, to which a weighting factor may be applied if prescribed so in the module description. Only the first digit after the decimal point is used, all other digits are ignored without rounding. On the basis of the averages below, the module grades are

| | |
|----------------------|--------------|
| 1.5 and better | = very good, |
| between 1.6 and 2.5 | = good, |
| between 2.6 and 3.5 | = average, |
| between 3.6 and 4.0 | = pass |
| grades 4.1 and worse | = fail. |

(3) Module examinations, which solely consist of an ungraded exam, are rated as 'passed' or 'failed' (ungraded module examinations) in accordance with the evaluation of the exam. Ungraded module examinations do not enter further grade calculations.

(4) Pursuant to § 25 par. 1, the final grade for the Master's thesis, to which a weighting factor of 1.5 is applied on the basis of the earned credits, and the module grades, to which a weighting factor on the basis of the credits, enter the final grade the Master's examination. The overall grade given for the Master's thesis is a combination of the grade given for the Master's thesis with a weighting factor of 4 and the grade given for the colloquium with a weighting factor of 1. For the calculation of the overall and final grades, sec. 2 sentences 2

and 3 shall apply mutatis mutandis.

(5) The overall grade given for the Master's examination is additionally shown as a relative grade on the basis of the ECTS grading scale.

(6) The students shall be informed about the details concerning the announcement of the examination results in the usual way of announcement.

§ 11

Non-appearance, withdrawals, cheating, breach of regulations

(1) An exam is evaluated as 'fail' (5.0) or as 'failed' if the student fails to appear for a binding exam date or if s/he withdraws from a registered exam without good cause. The same applies when an exam is not taken within the defined period of time.

(2) The student has to announce and substantiate the good cause for the withdrawal or the non-appearance immediately in writing to the Examination Office. As a rule, in case of illness students are required to submit a medical certificate, in case of doubt a written documentation from a public health officer. As regards the adherence to deadlines for the first registration for exams, retake of exams, reasons for no-shows and the adherence to time limits for working on exams, illness of the student is equivalent to illness of the child for which the student has the sole parental responsibility most of the time. If the reason is accepted, a new exam date is set. In this case, if exam results are already available they will be counted towards the final result. The Board of Examiners decides upon the acceptability of the withdrawal or the reason for no-show.

(3) If a student attempts to manipulate the result of the exams by fraud or the use of unfair means, the relevant exam will be evaluated as 'fail' (5.0). Accordingly, ungraded exams are evaluated as 'failed'. Students who obstruct the proper process of an exam, can be excluded from completing the exam by the examiner or the proctor; in this case, the exam is rated as 'fail' (5.0) or 'failed'. In grave cases, the board of examiners may exclude the student from taking further exams.

(4) Sections 1 to 3 shall apply mutatis mutandis for the Master's thesis and the colloquium.

§ 12

Pass and fail

(1) A module exam is passed if the module grade is 'sufficient' (4.0) or better or if the ungraded module exam is rated as 'passed'. If the student passed the module exam, s/he earns the credits that are associated with the module in the module description.

(2) The Master's examination is passed after the module examinations, the Master's thesis and the colloquium are all passed. Master's thesis and colloquium are passed if they are assessed as 'pass' (4.0) or better.

(3) A module exam is not passed if the module grade is 'pass' (4.0) or worse or if the module exam is assessed as 'exam failed'.

(4) A module exam is failed at the final attempt unless the module grade is 'sufficient' (4.0) or better or the module exam is assessed as 'fail' and it is no longer possible to retake the exam. Master's thesis and colloquium are failed at the final attempt unless they were assessed with grade 'sufficient' (4.0) or better and unless it is possible to retake the exam.

(5) A Master's examination is not passed or failed in the final attempt unless either a module exam, the Master's thesis or the colloquium are passed or failed in the final attempt, respectively. § 3 Section 1 shall remain unaffected.

(6) If a student failed a module exam, or the Master's thesis or the colloquium were assessed with a grade worse than 'sufficient' (4.0), the student shall be informed about whether and to which extent and within which time limits s/he can retake the relevant exam.

(7) If a student failed the Master's examination, s/he can apply for a certificate that confirms the completion of parts of exams and their evaluation and – if applicable – the uncompleted/failed parts of exams and which also states that the Master's examination was not yet successfully passed, upon the production of the necessary proofs of academic achievements and the certificate of withdrawal from the student register.

§ 13 Free trial

(1) Module examinations can be taken earlier than in the semesters defined by the curriculum plan if the admission requirements are fulfilled (free trial).

(2) Students can apply for another retake of module examinations they successfully passed as a free trial or exams that were assessed with at least grade 'pass' (4.0) to improve their grade at the next possible and regular exam date. In such cases, the better grade achieved will count. Form and deadline for the application are defined by the Board of Examiners and are publicly announced by the faculty in the known manner. If the next regular exam date or the application deadline are missed, grades can no longer be improved. Exams for which students earned grade 'sufficient' (4.0) or better in an exam that does not count as an exam attempt (*Freiversuch*) may - on application - count towards grade calculation in case a module exam is retaken to improve grades. Exams that were graded 'pass' in an exam that does not count as an exam attempt (*Freiversuch*) are credited toward your programme.

(3) If a module exam is failed in the *Freiversuch*, it is considered as an exam that was not conducted. Exams that are graded as 'pass' (4.0) or better or as 'exam passed' count towards grade calculation in the subsequent exam procedure. If students seek to improve their grade for particular exams pursuant to par. 2, the better grade achieved will count.

(4) In excess of § 3 par. 4, times of interruption of studies because of long-term illness of the student or because of caring for a child for whom the student has the sole parental responsibility most of the time and also times spent studying abroad are neither taken into account when *Freiversuch* regulations apply.

§ 14 Resitting module examinations

(1) Failed module examinations can be retaken once within one year after the completion

of the first attempt. The deadline starts on the day students are notified of the first fail of the module exam. After this deadline passed, the exams are considered as failed once again.

(2) The exam can be retaken for the second time only at the next available exam date. Afterwards, the module exam is considered to be failed in the final attempt. Students can no longer resit exams they failed at the final attempt.

(3) Within a failed module exam, which consists of several exams, only those exams shall be retaken which are not graded 'pass' (4.0) or better or that are not considered 'passed'.

(4) Students can retake a passed module exam only in cases pursuant to § 13 par. 2 and must resit all exams.

(5) Unsuccessful attempts of the module exam of the same or other courses of study will be taken over.

§ 15

Recognition of assignments and exams, study periods and also qualifications obtained at institutions that are not HE universities or colleges

(1) Assignments and examinations undertaken at HE institutions can be credited toward your programme upon application unless there are crucial differences regarding the competencies acquired. Where appropriate take notice of further agreements of Technische Universität Dresden, HRK, KMK and also those ratified by the Federal Republic of Germany.

(2) Qualifications obtained at institutions that are not HE universities or colleges can be credited toward your programme upon application if they are equivalent. There is equivalence when contents, number of hours and requirements are in substantial accordance with parts of the Master's programme Advanced Computational and Civil Engineering Structural Studies at the Technische Universität Dresden. No schematic comparison shall be made but an overall analysis and an overall evaluation. Qualifications obtained at institutions that are not HE universities or colleges cannot replace more than 50 % of the programme.

(3) Assignments and examinations completed in the same degree programme in the Federal Republic of Germany are credited toward a programme without filing an application.

(4) Assignments and examinations undertaken at HE institutions may be credited toward a programme despite crucial differences if they are in general accordance with the purpose and aim of an option offered in this programme on the basis of their contents and qualification aims and are hence a structural equivalent. The certificate will show the work and exams the student actually completed.

(5) The recognition or transfer of assignments and examinations pursuant to paragraphs 1, 3 or 4 or the recognition of qualifications obtained at institutions that are not HE universities or colleges pursuant to paragraph 2 is accompanied by the official recognition of study periods. Provided the grade systems are comparable, grades will be adopted and will enter the calculation of grades. Unless grade systems are comparable, the addition 'pass' is made and grades will not enter the grade calculation. Recognition may be marked as such in the certificate.

(6) Recognition is made by the Board of Examiners. It is necessary that the student pro-

duces the relevant documents required for the recognition. After the student handed in the documents, the recognition process must not exceed one month. In case of non-recognition § 16 par. 4 sentence 1 shall apply.

§ 16 Board of Examiners

(1) For the Master's programme Advanced Computational and Civil Engineering Structural Studies – ACCESS a board of examiners is formed the members of which will organise and conduct examinations and also fulfil tasks that arise from the examination regulations. Four university lecturers, a research fellow and two students form the board of examiners. With the exception of the students, the members remain in this office for three years. The students will remain in the office for one year.

(2) The chairperson, his / her deputy and the other members and their deputies are appointed by the Faculty Council of the Faculty of Civil Engineering, the student members are suggested by the council of student representatives. As a rule, the chairperson manages the affairs of the board of examiners.

(3) The board of examiners ensures that the provisions of the examination regulations are met. At regular intervals, the board reports to the faculty about the development of examination and study periods and also about the distribution of the module and overall grades. The report shall be disclosed by the Technische Universität Dresden in a suitable manner. The board of examiners makes suggestions as to reforms of the examination regulations, the study regulations, the module descriptions and the curriculum plan.

(4) Undesirable decisions shall be notified in writing to the student in question and shall be accompanied by reasons and by information on legal remedies. The board of examiner as examination authority decides on appeals within reasonable time and issues the determinations to appeals.

(5) The members of the board of examiners have the right to attend exams and the colloquium.

(6) The members of the board of examiners and their deputies are subject to professional discretion. Unless they are civil servants, the chairperson shall direct members to use professional discretion.

(7) The examination office organises the examinations and keeps examination files on the basis of the decisions made by the board of examiners.

§ 17 Examiners and co-examiners

(1) The board of examiners appoints university teachers and other persons as examiners who are authorised to conduct examinations pursuant to Land law. Co-examiners must have passed a Master's examination or a comparable exam in the relevant subject area.

(2) Students can suggest the supervisor for their Master's thesis and the examiners for

oral exams and also the colloquium. The proposal does not substantiate a claim.

(3) The names of examiners shall be announced to students in good time.

(4) § 16 par. 6 shall apply mutatis mutandis to examiners and co-examiners.

§ 18

Purpose of the Master's examination

Passing the Master's examination marks the completion of the programme and the award of the job-qualifying degree. By passing the exam students demonstrate in-depth and thorough knowledge and skills in the subject that also fulfil interdisciplinary scientific and the practical requirements.

§ 19

Purpose, issue, submission, evaluation and re-submission of the Master's thesis and the colloquium

(1) The purpose of the Master's thesis is to demonstrate that the student is able to work independently on complex tasks in the subject area using scientific methods and within a specified time.

(2) The supervisor for the Master's thesis can be a professor or another person who is entitled to hold examinations pursuant to *Sächsisches Hochschulfreiheitsgesetz* provided this person works in the Master's programme Advanced Computational and Civil Engineering Structural Studies – ACCESS at Technische Universität Dresden. If the student wishes that the supervisor for the Master's thesis is a person that is entitled to hold examinations but does not work in the university, the chairperson of the board of examiners shall agree.

(3) The board of examiners hands out the topic of the Master's thesis. The topic and the date of handing it out shall be placed on record. Students can suggest preferred topics. Upon the student's application, the board of examiners arranges for the issue of the topic for the Master's thesis in good time. The topic is issued ex officio by the board of examiners not later than 4 weeks after the student passed the last module exam.

(4) The topic can be returned only once and only within one month after it was issued. However, in case of a repeated Master's thesis students are allowed to return the topic only unless they returned the topic in their first Master's thesis attempt. As soon as students return the topic, they are issued a new topic without delay pursuant to par. 3 sentence 1 – 3.

(5) The Master's thesis can also be performed in a team as long as the individual part worked out by the student as his/her Master's thesis can be clearly defined on the basis of paragraphs, page numbers or other objective criteria which allow an individual evaluation and fulfil the requirements stated in paragraph 1.

(6) Students shall hand in two typed and bound copies of their Master's thesis in English and also a digital file of it on a data carrier to the Examination Office of the faculty Civil Engineering within the specified time limit; the hand-in time shall be placed on record. In submitting, students declare in writing that the Master's thesis – in case of group work the marked part of the work – is their own work and that they used only the indicated references and

devices.

(7) Two examiners individually assign grades to the Master's thesis pursuant to § 10 par. 1 sentence 1 - 3. The supervisor of the Master's thesis shall be one of the examiners. The duration of the evaluation procedure should not be longer than four weeks.

(8) The grade of the Master's thesis is the calculated average of the two individual grades given by the examiners. If the individual grades given by the examiners differ by more than two grades from each other, the average grade shall be given provided both examiners agree. If they do not agree, the board of examiners appoints another examiner for a third grade. As a result, the grade for the Master's thesis is the calculated average of the three individual grades. § 10 par. 2 sentence 2 and 3 shall apply mutatis mutandis.

(9) If one examiner gave grade „pass“ (4.0) or better for the Master's thesis and the other examiner gave grade „fail“ (5.0), the board of examiners will appoint another examiner for a third grade. This third assessment decides whether the Master's thesis is a pass or fail. If the Master's thesis as a result of the third assessment is a pass, the average grade is calculated from the individual grades given by the 'pass' voters, otherwise it is calculated from the grades given by the 'fail' voters. § 10 par. 2 sentence 2 and 3 shall apply mutatis mutandis.

(10) Students can repeat the Master's thesis once within one year if the grade given for it is worse than „pass“ (4.0). More resits are not permitted.

(11) The student must explain the Master's thesis in a public colloquium in which the supervisor of the thesis as the examiner and a co-examiner are present. Further examiners can be appointed. The essence of the colloquium and the result will be put on record. The student is informed about the result right after the colloquium. Par. 10 and § 10 par. 1 sentence 1 - 3 shall apply accordingly.

§ 20

Certificate of grades and Master's degree certificate

(1) A certificate of the passed Master's examination is issued without delay, if possible within four weeks, and handed over to the student. The certificate of the Master's examination shall include the module assessments pursuant to § 25 par. 1, the topic of the Master's thesis, its grade, the supervisor and also the final grade. The individual exams are listed on the Annex to the Certificate. Upon the student's application, the Certificate includes the evaluation of additional modules and the number of semesters the student spent on subject-related studies until the completion of the Master's examination and the grades earned by all students of the year (overview of grades, ranking) are verified on an additional sheet to the Certificate.

(2) Concurrently with the certificate of the Master's examination students are handed over the Master's degree certificate indicating the date the certificate is issued. This document is to certify that the student is awarded the Master's degree. The Master's degree certificate is signed by the rector and the chairperson of the board of examiners and bears the round raised seal of Technische Universität Dresden. Moreover, students are awarded the Master's degree certificate and the certificate of the Master's examination in English.

(3) The certificate bears the date when the student completed the last part of the examination pursuant to § 12 par. 2. The certificate is signed by the dean and the chairperson of

the board of examiners and bears the faculty's round official stamp of Technische Universität Dresden.

(4) The Technische Universität Dresden issues a Diploma Supplement (DS) following the 'Diploma Supplement Model' of the European Union/Council of Europe/UNESCO. The text, which has been agreed upon by KMK and HRK, shall be used in its current version to describe the national education system (DS section 8).

§ 21 Invalid Master's examination

(1) If a student cheated during an exam and this becomes known only after s/he has been given the certificate, the evaluation of the exam can be modified pursuant to § 11 par. 3. Where appropriate, the board of examiners can declare the module exam as 'fail' (5.0) and the Master's examination as 'failed'. This provision shall apply mutatis mutandis for ungraded module examinations, the Master's thesis and also the colloquium.

(2) If the prerequisites for holding a module exam were not fulfilled and the student did not attempt to disguise this fact, and provided this fact becomes known only after the student has been handed over the certificate, this defect of title is cured by the passing of the module exam. If the student wilfully and wrongfully brings about the holding of a module exam, the board of examiners can assess the module exam as 'fail' (5.0) and the Master's examination as 'failed'. This provision shall apply mutatis mutandis for ungraded module examinations, the Master's thesis and also the colloquium.

(3) The student shall have the opportunity to comment on the case before a decision is made.

(4) The chairperson of the board of examiners shall revoke the wrong certificate and its translation and reissue a new certificate and translation where appropriate. The Master's degree certificate, the diploma supplement and also the translations thereof shall be revoked together with the false certificate provided the Master's examination was declared to be a 'fail' as the result of cheating. It is impossible to make a decision pursuant to par. 1 and par. 2 sentence 2 or 3 later than five years after the day the certificate was issued.

§ 22 Examination of exam records

The student has the right to file an application within one year after the examination procedure has been closed to be allowed to examine written examinations and the assessments thereof and the exam records within adequate time.

Section 2: Subject-specific provisions

§ 23

Duration, structure and scope of studies

- (1) Pursuant to § 1 the standard period of study is 4 semesters.
- (2) The programme has a modular structure and is completed with the Master's thesis and the colloquium.
- (3) By passing the Master's examination the student earns a total of 120 credits for the modules, the Master's thesis and the colloquium.

§ 24

Subject-related prerequisites for the Master's examination

- (1) For a topic for the Master's thesis to be approved it is prerequisite that the student has passed a minimum of twelve out of the fifteen module examinations of the Master's examination.
- (2) Prior to the colloquium the student must have earned grade 'pass' (4.0) or better for the Master's thesis.

§ 25

Subject, type and scope of the Master's examination

- (1) The Master's examination comprises all required module examinations, the chosen required elective module examinations and also the Master's thesis and the colloquium.
- (2) The required modules are
 1. Building Materials
 2. Continuum Mechanics, Tensor Analysis
 3. Energy Methods, FEM
 4. Numerical Methods
 5. Mentoring Programme on Academic Competence
 6. **Mentoring Programme on Methods Competence**
 7. Applications of Computer-Oriented Engineering Methods
 8. Application-Oriented Research Project
- (3) The required elective modules are
 1. Structural Analysis of Reinforced Concrete Structures
 2. Calculation and Structural Analysis of Masonry Structures
 3. Timber and Lightweight Structures
 4. Glass Structures
 5. Computer-Oriented Methods for Reinforced Concrete Load-Bearing Structures
 6. Building Physics
 7. Multiscale Methods
 8. Numerical Dynamics

9. Modelling of Road Structures for Dimensioning and Forecast Calculations
 10. Cable-Stayed Bridges
 11. Safety Concepts
 12. BIM-Based Virtual Engineering Laboratory
 13. Material Models for Soils
- of which seven shall be chosen.

(4) The module descriptions define the required exams which are classified with the modules, their type and organisation. Unless otherwise specified in the module descriptions, content and skills of the module are subject of the exams.

(5) Students can take exams in other modules (additional modules) than those listed in section 1. The modules for these exams can be chosen freely from the overall module catalogue of the Technische Universität Dresden or a co-operating institution of higher education. They do neither enter the calculation of the student's total workload nor the calculation of the final grade.

§ 26

Time for working on the Master's thesis and duration of the colloquium

(1) The time allowed for working on the Master's thesis is four months, students earn 27 credits. It is the supervisor's responsibility to limit the topic, the assigned task and the extent of the Master's thesis such that students are able to keep the deadline for completing the Master's thesis. In exceptional cases, the board of examiners can grant a maximum extension of time for working on the thesis of two months, the number of credits remains unaffected. The application for extension must be submitted at least three weeks before the regular submission deadline.

(2) The maximum duration of the colloquium is 60 minutes. The student earns 3 credits.

§ 27

Master's degree

After the student has passed the Master's examination, s/he is awarded the degree 'Master of Science' (short: M.Sc.) .

Section 3: Final provisions

§ 28

Coming into force and public notice

These examination regulations become effective as of 1 October 2010 and are publicly announced in the Official Notices of Technische Universität Dresden.

Issued on the basis of the decision of the faculty council of the Faculty Civil Engineering made on 01 September 2010 and the approval of the rectorial board of 24 February 2015.

Dresden, 22 October 2016

The Rector
of Technische Universität Dresden

Prof. Dr.-Ing. habil. DEng/Auckland Hans Müller-Steinhagen