



**TECHNISCHE  
UNIVERSITÄT  
DRESDEN**

Faculty of Electrical and Computer Engineering

**Examination Regulations for the Consecutive Master's Programme  
Nanoelectronic Systems**

as of 26<sup>th</sup> April, 2024

Pursuant to § 35 sec. 1 sentence 1 of the Saxon Higher Education Act (*Sächsisches Hochschulgesetz - SächsHSG*) of 31<sup>st</sup> May, 2023 (*SächsGVBl.* p. 329) the Technische Universität Dresden enacts the following Examination Regulations as a statute.

Please note: This is an English translation of the German original.  
**Only the German version is legally binding.**

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## **Section 1: General provisions**

### **§ 1**

#### **Standard period of study**

During the standard period of study for the Master's programme Nanoelectronic Systems, students are required to accomplish face-to-face studies, self-study, supervised practical periods, if applicable, and the Master examination.

### **§ 2**

#### **Study and examination structure**

(1) The programme has a modular structure and concludes with a final university examination. The final university examination is the Bachelor's examination in Bachelor's degree programmes, the Master's examination in Master's degree programmes and the Diploma examination in Diploma degree programmes.

(2) The final university examination consists of module examinations as well as the final thesis and, if this is provided for in Section 2: Subject-specific provisions, the colloquium. A module examination concludes a module and consists of at least one examination. The examinations are taken during the course of study. The final thesis is the Bachelor's thesis in Bachelor's degree programmes, the Master's thesis in Master's degree programmes and the Diploma thesis in Diploma degree programmes.

(3) The required examinations assigned to the modules as well as their type and structure are specified in the module descriptions. Unless otherwise specified in the module descriptions, the subject of the examinations is the contents and objectives to be acquired in the module.

(4) Subject-specific admission requirements may be specified for the components of the final university examination in accordance with section 2 sentence 1. In particular, coursework may be required as examination prerequisites for module examinations if this is exceptionally necessary to ensure that the examination is meaningful. The number, type and structure of these are to be regulated in the module descriptions; attendance is not an examination prerequisite. Further subject-specific admission requirements may be stipulated in Section 2: Subject-specific provisions. If subject-specific admission requirements have been fulfilled in the form of elective modules, a later change of choice is not detrimental. Subject-specific admission requirements that would be fulfilled by a waiver in accordance with § 18 are deemed to have been fulfilled on the basis of a corresponding declaration by the student.

(5) The student may take an examination in modules other than those covered by the final university examination (additional modules). After consultation with the examiner, these module examinations can be taken optionally from the entire range of modules offered by the Technische Universität Dresden or a cooperating university. They are not included in the calculation of the student workload and are not taken into account when calculating the overall grade.

### **§ 3**

#### **Dates and deadlines**

(1) Students are expected to pass the Master examination within the standard period of study. Unless the Master examination is passed within four semesters after the end of the standard period of study, the exam is considered a fail. A failed Master 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 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 academic qualifications and exams and also the Master thesis and the colloquium can be accomplished within the defined periods of time. Students are informed in time about type, number and dates of academic qualifications and exams, and also about the dates of issue and submission of the Master thesis and the day and time of the colloquium.

#### **§ 4**

#### **General requirements for admission and admission procedures**

(1) The Master examination can only be taken by students who (§ 2 section 2 sentence 1)

1. are enrolled in the Master's programme Nanoelectronic Systems at Technische Universität Dresden and
2. have fulfilled the relevant subject-related prerequisites and
3. have submitted a written or electronic statement on section 4 no. 3.

(2) Students must register for the performance of module examinations. It is generally possible to deregister without giving reasons up to three working days before the examination date; the Examination Board may, in consultation with the Academic Affairs Committee, set a different date up to 14 days before the examination date at the earliest; this date must be announced at the beginning of the semester in the usual manner. The deadline for registration and the form of registration and deregistration shall be determined by the Examination Board and announced at the beginning of each semester in the usual manner. The same applies to preliminary examinations.

(3) Students are admitted to

1. a module examination by the electronic examination management system due to the automated check of the admission requirements together with the first registration for an examination performance of this module examination,
2. the thesis by the chairperson of the Examination Board on the basis of the student's application for the issue of the topic or, in the case of § 26 section 3 sentence 5, together with the issue of the topic and
3. to the colloquium by the responsible examination office on the basis of the assessment of the final thesis with a grade of at least "sufficient" (4.0), provided that the final university examination according to § 2 section 2 sentence 1 includes a colloquium.

(4) Admission is refused if

1. the prerequisites mentioned in section 1 or the rules of procedure in accordance with section 2 are not fulfilled or
2. the papers are incomplete or
3. students have already failed an exam at the final attempt and this exam is a prerequisite for the successful completion of the Master's programme Nanoelectronic Systems.

(5) Admission is denied by the Examination Board.

## § 5

### Types of assessments

- (1) Assessments can be completed as
1. written examinations (§ 6),
  2. term papers (§ 7)
  3. oral examinations (§ 8),
  4. complex assignments (§ 9)
  5. portfolios (§ 10),
  6. academic-practical assessments (§ 11) and
  7. language examinations (§ 12).

Examinations or individual tasks may be carried out using the multiple-choice method if this is regulated in the regulations applicable to the degree programme. If examinations or individual tasks are carried out in accordance with sentence 2, the student should demonstrate the knowledge and skills covered by the qualification objective of the module.

(2) Coursework and examinations must be completed in German or, depending on the module description, in English. If a module primarily serves the acquisition of foreign language qualifications or subject-specific qualifications in a foreign language philology in accordance with the module description, coursework and examinations may also be completed in the respective foreign language in accordance with the respective task. At the student's request, coursework and examinations may also be completed in another language if the Examination Board agrees to this in consultation with the examiner.

## § 6

### Written examinations

- (1) Written examinations are taken in person and the result is an objective, e.g. written paper.
- (2) Written examinations serve to demonstrate that students are able to solve problems and work on topics in a limited amount of time and with limited resources using the usual methods of the subject.
- (3) The duration of the written examinations is specified in the module descriptions and may not be less than not be less than 60 minutes and not exceed 240 minutes.

## § 7

### Term papers

- (1) Homework is completed as a non-attendance performance, the result is an objective, e.g. written work.
- (2) Term papers serve to demonstrate the ability to work on selected questions using specialist literature or other work materials within a limited period of time and to verify that basic techniques of scientific work can be applied. This includes the ability to work in a team, if the respective task requires this. If specified in the module descriptions, term papers also include proof of the ability to present and discuss aspects of the work in question in a coherent oral presentation in accordance with the respective assignment (combined term paper).
- (3) The time required for the term papers is specified in the module descriptions and may not exceed 300 hours. Derived from this, the deadline for submission must be of the respective assignment.
- (4) § 8 section 5 applies accordingly to individual oral assignments of combined assignments.
- (5) In the case of a team assignment, the individual contributions must be clearly recognizable and assessable and each must meet the requirements of section 2.

## **§ 8**

### **Oral examinations**

(1) Oral examinations are taken as face-to-face examinations and are not objective. The focus is on the student's statements.

(2) Oral examinations serve to provide direct, in particular conversational, lecturing, presenting or discussing evidence of linguistic and communicative competencies, the specialist knowledge corresponding to the level of study and the understanding of contexts in the examination area. The respective task determines which skills are in the foreground.

(3) Oral examinations take place as group examinations with up to five students or as individual examinations in accordance with the module descriptions.

(4) The duration of oral examinations is specified in the module descriptions and may not be less than 15 minutes per student and may not exceed 60 minutes per student. Group examinations may not exceed a total duration of 75 minutes.

(5) Oral examinations are taken in front of at least two examiners (peer examination) or in front of one examiner in the presence of an expert assessor (§ 24). The main subjects and results of the oral examinations must be recorded in minutes.

(6) Oral examinations may be conducted in public or not in public. In public oral examinations, the presence of members of the audience is permitted within the scope of the spatial conditions, unless an examiner objects. In non-public oral examinations, a student who wishes to take the same examination at a later examination date may only be admitted as a member of the audience upon application by the student by the examination board in agreement with the examiners of a peer examination or otherwise with the examiner within the scope of the spatial conditions, unless the student to be examined objects. The form and deadline for submitting an application shall be determined by the Examination Board and announced in the usual manner. The module descriptions specify whether the oral examination is public or non-public. Discussions and the announcement of examination results always take place without an audience.

## **§ 9**

### **Complex assignments**

(1) Complex assignments can consist of attendance and non-attendance performances and, in addition to written or other objective individual performances, can also include oral or other non-objective individual performances.

(2) Complex assignments serve to demonstrate the ability to develop, implement and present concepts. The aim is to demonstrate the ability to define goals and develop solutions for a larger task. This includes the ability to work in a team if the task in question requires this.

(3) The amount of time required for the complex assignment is specified in the module descriptions and may not exceed 450 hours. Based on this, the deadline for the submission of individual assignments and the duration of individual assignments must be determined within the framework of the respective task.

(4) § 8 section 5 applies accordingly to oral or other non-objective individual services.

(5) In the case of a complex assignment performed in the form of teamwork, the individual contributions must be clearly recognizable and assessable and each must meet the requirements set out in section 2.

## **§ 10**

### **Portfolios**

(1) Portfolios can include attendance and non-attendance work, the result is an objective, e.g. written work.

(2) Portfolios are a compilation of similar or different individual achievements and serve to demonstrate that the aspects of professional, scientific activity determined by the respective task can be placed in a larger context. This includes the ability to work in a team, if the respective task requires this.

(3) The time required for the portfolios is specified in the module descriptions and must not exceed 300 hours. Based on this, the deadline for the submission of individual assignments, the duration of individual assignments and the deadline for the submission of the entire portfolio must be determined within the framework of the respective assignment.

(4) In the case of a portfolio produced in the form of teamwork, the individual contributions must be clearly recognizable and assessable and each must meet the requirements set out in section 2.

## **§ 11**

### **Academic-practical assessments**

(1) Academic-practical work is completed as on-campus work and is not objective. The focus is on the student's actions.

(2) Academic-practical achievements serve as proof of being able to carry out activities in accordance with the requirements of the subject.

(3) The duration of the academic-practical performance is specified in the module descriptions and must not be less than 15 minutes and not exceed 45 minutes.

(4) § 8 section 5 applies accordingly.

## **§ 12**

### **Language examinations**

(1) Language examinations are taken in person and may include oral or other non-subject-specific examinations in addition to written examinations.

(2) Language examinations serve as proof of practical language skills.

(3) The duration of the language examinations is specified in the module descriptions and must not be less than 15 minutes and not exceed 240 minutes. The ratio of written or other written and oral individual performances is to be determined within the framework of the respective assignment.

(4) § 8 section 5 applies accordingly to oral or other non-objective individual services.

## **§ 13**

### **Electronic examinations**

(1) In principle, the examinations in accordance with §§ 6 to 12 can also be conducted, evaluated and assessed using digital technologies. Only those digital technologies that correspond to the generally recognized state of the art at the time of use may be used. Data protection regulations must be complied with.

(2) Before an examination is conducted using digital technologies, the suitability of these technologies with regard to the intended examination tasks and the conduct of the electronic examination must be determined by two examiners in consultation with the examination board.



The conduct of an examination using digital technologies will be announced in the usual manner by the start of the registration period.

(3) The authenticity of the student and the integrity of the examination results must be ensured. To this end, the examination results must be clearly identified in the form of electronic data and assigned to the student in an unmistakable and permanent manner. It must be ensured that the electronic data for assessment and verifiability is unchanged and complete.

(4) An automated assessment of an examination must be reviewed by an examiner at the request of the examined student.

#### **§ 14**

#### **Studying with disabilities and chronic illnesses and with family responsibilities**

(1) If the student can credibly demonstrate that he or she is unable to take examinations as planned due to a disability or chronic illness, he or she is entitled to compensation for disadvantages in the examination procedure if the relevant requirements are met. The granting of compensation for disadvantages, including the desired compensatory measures, must be applied for with the examination board and the existence of the requirements must be substantiated. The submission of a medical certificate and, in cases of doubt, an official medical certificate may be requested. The form and deadline for the application shall be determined by the Examination Board and announced in the usual manner. If the Examination Board determines that a claim exists in accordance with sentence 1, it shall decide at its own discretion, with the involvement of the respective examiners, whether to grant appropriate compensation. Before an examination is conducted using digital technologies, the suitability of these technologies with regard to the intended examination tasks and the conduct of the electronic examination must be determined by two examiners in consultation with the examination board. The conduct of an examination using digital technologies will be announced in the usual manner by the start of the registration period. The representatives for students with disabilities and chronic illnesses, the peer counselor (ISL)/peer-to-peer counselor and, if affected, the working group Services Disability and Studies can be consulted; in particularly difficult cases, they should be consulted. Possible compensatory measures include, in particular, extended processing times, breaks in processing, use of other media, use of other examination rooms within the university, a different examination date or the performance of an equivalent examination in a different form. If it is intended to deviate significantly from the requested compensatory measures, the student should be given the opportunity to comment on this before the decision is made.

(2) During pregnancy, after childbirth and while breastfeeding, the provisions of the Maternity Protection Act apply. In particular, examination deadlines do not begin during the maternity protection periods in accordance with § 3 of the Maternity Protection Act and they are not counted towards current examination deadlines; deadlines for the submission of non-attendance work and individual work to be completed in non-attendance in accordance with § 9 section 3 sentence 2 and § 10 section 3 sentence 2 are to be extended. Students who take parental leave in accordance with the Federal Parental Allowance and Parental Leave Act have the option of taking a leave of absence from their studies in accordance with § 12 section 2 of the Matriculation Regulations. Examination deadlines do not begin to run during the periods of leave of absence and they are not counted towards current examination deadlines.

(3) If the students can credibly demonstrate that they are unable to take examinations as prescribed due to caring for their own children up to the age of 14 or caring for close relatives, they may be granted appropriate compensation upon request (extended compensation for disadvantages). The Examination Board decides on this with the involvement of the respective examiners. Section 1 sentences 2 and 4 to 8 apply accordingly. Close relatives are children including children-in-law,

adopted and foster children as well as children, adopted or foster children of the spouse or life partner, grandchildren, parents, parents-in-law, grandparents, siblings, spouses, life partners and partners in a marriage-like relationship.

(4) Sections 1 to 3 apply accordingly to preliminary examinations, the final thesis and, if applicable, the colloquium.

## **§ 15**

### **Evaluation of assessments, calculation and weighting of grades, announcement of examination results**

(1) The assessment of an examination is determined by the respective examiner. In the case of a peer examination, the assessment is determined jointly by the examiners. The following grades are to 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 =	sufficient	=	a performance that still meets the requirements despite some inadequacies;
5 =	insufficient	=	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 assessment is rated as „pass“ or „fail“ (ungraded assessment) if the relevant module description provides for this as an exception. Ungraded assessments that are rated as „pass“ do not enter further grade calculations; Ungraded assessments that are rated as „fail“ enter further grade calculations as grade 5 (insufficient). Section 2: Subject-specific provisions may stipulate that and how bonus achievements are to be taken into account in the assessment of examinations.

(2) As a rule, but at least in the case of the last repeat examination, examinations which must be passed in order to continue the degree programme must be assessed by two examiners; if these are oral examinations, oral or other non-objective individual performances or academic-practical performances, § 8 paragraph 5 applies.

(3) The grade of an examination corresponds to the assessment of the examiner or, in the case of section 1 sentence 2, the joint assessment of the examiners. In all other cases, the grade of an examination shall correspond to the average of the individual assessments in the case of an assessment by several examiners or, in the case of an assessment in accordance with section 1 sentence 5, the matching individual assessments; if the individual assessments do not match, § 26 section 9 sentences 1 and 2 shall apply accordingly. If a grade or a module grade, overall grade, final grade or, if applicable, section or section grade is calculated as the average of several individual assessments in accordance with section 1 or of grades, module grades or the final grade, only the first decimal place after the decimal point is taken into account; all other places are deleted without rounding.

(4) The module grade is calculated from the average of the grades of the assessments of the module, to which a weighting factor may be applied if prescribed in the module description. On the basis of the averages below, the module grades are

1.5 and better	=	very good,
from 1.6 to 2.5 inclusive	=	good,
from 2.6 to 3.5 inclusive	=	average,
from 3.6 to 4.0 inclusive	=	sufficient,
4.1 and worse	=	insufficient.

If a module examination is not passed due to failing an assessment which is required for passing the module according to § 19 section 1 sentence 2, the module grade is "insufficient" (5.0).

(5) Module examinations, which solely consist of one ungraded assessment, are rated as „pass“ or „fail“ (ungraded module examinations) in accordance with the evaluation of the assessment. Ungraded module examinations do not enter further grade calculations.

(6) An overall grade is calculated for the final university examination. The final grade includes the final grade of the thesis and the module grades of the module examinations included in the final university examination weighted according to the credit points, unless certain module grades are excluded from the overall grade calculation in Section 2: Subject-specific provisions. The final grade for the final thesis is made up of the grade for the final thesis and the grade for the colloquium. If the final university examination does not include a colloquium in accordance with § 2 section 2 sentence 1, the final grade of the final thesis corresponds to the grade of the final thesis. Section 2: Subject-specific provisions may provide for the formation of section or section grades. The final grade and, if applicable, the section or section grades are weighted in accordance with the regulations in Section 2: Subject-specific provisions. Section 4 sentence 2 applies accordingly to the overall grade, final grade and, if applicable, section or section grades; the overall grade is "passed with distinction" with an average of 1.2 or better.

(7) The examination result of an oral examination will be communicated to the student following the oral examination. The assessment procedure for all other examinations should not exceed four weeks; for written examinations with more than 300 participants, the assessment procedure should not exceed eight weeks. Information on the examination results of these examinations is provided in the usual manner.

(8) In order to review the examiner's assessment of an examination which has not yet become final, the student may apply for the assessment decision to be reconsidered (remonstration). For this purpose, the student must submit an application to the examiner and raise specific complaints about the assessment. The examiner is obliged to review and, if necessary, amend his or her assessment of the examination performance, taking into account the assessment complaints raised. A deterioration of the examination result is generally excluded. The student will be informed of the result of the review procedure in writing or electronically. This does not affect the right to appeal against the examination notification for the module examination in question. The reconsideration procedure must be documented in the examination file. The reconsideration procedure can also take place for the first time during the formal objection or subsequent legal proceedings against the examination notice for the relevant module examination. In this case, in deviation from sentence 2, first half-sentence, it is initiated ex officio by the chairperson of the Examination Board.

## § 16

### **Withdrawals, extension of processing times**

(1) If the student is unable to attend a binding examination date or to meet a binding submission deadline for an examination, he or she may withdraw from the examination for valid reasons or apply for an extension of the deadline for submission (processing time) for non-attendance work and individual work to be completed in non-attendance in accordance with § 9 section 3 sentence 2 and § 10 section 3 sentence 2. A valid reason is, for example, the illness of a child including children-in-law, adopted and foster children as well as children, adopted or foster children of the spouse or life partner. Withdrawal must be declared immediately in writing to the responsible examination office; an extension of the processing time must be applied for in good time. The reasons given must be substantiated immediately. If the student is ill, a medical certificate must be submitted; in cases of doubt, a medical certificate by a public health officer must be submitted.

(2) The examination board decides on the approval of the withdrawal and the extension of the processing time. If the rejection is issued after the binding submission deadline, the examination will be graded as "insufficient" (5.0) or "failed" if the non-attendance work was not submitted on time. Otherwise, the non-attendance work will be assessed in accordance with Section 15 (1). If the processing time is extended, the student must be informed of the new submission date for the examination. If a student does not attend an examination date that is binding for him/her without having withdrawn, the examination will be assessed as "insufficient" (5.0) or "failed". The same applies if an examination is not completed within the specified processing time.

(3) Sections 1 and 2 apply accordingly to preliminary examinations, the final thesis and, if applicable, the colloquium.

## § 17

### **Cheating, breach of regulations**

(1) If the student attempts to influence the result of his/her examination performance by cheating, for example by carrying or using unauthorized aids, the Examination Board will determine that the examination performance in question has been assessed as "insufficient" (5.0). Accordingly, ungraded examinations are deemed to have been assessed as "failed". A student who disrupts the orderly progress of the examination may be excluded from continuing the examination by the respective examiner or the respective invigilator; in this case, the examination is deemed to have been assessed as "fail" (5.0) or "fail". In serious cases, the Examination Board may exclude the student from taking further examinations.

(2) If the student has cheated in an examination and this fact only becomes apparent after the assessment has been announced, the Examination Board may change the assessment of the examination to "insufficient" (5.0) or "failed" and subsequently also change the grade of the module examination in accordance with § 15 section 4. If the requirements for taking a module examination were not met without the student intending to deceive, this deficiency is remedied by passing the module examination. If the student has deliberately and wrongly obtained the passing of a module examination, the examination board may declare the module examination "insufficient" (5.0) or "failed". In serious cases, the Examination Board may exclude the student from taking further examinations.

(3) An automated plagiarism check of the result of a subject examination is only permitted if the Examination Board determines that there are factual and documented indications that the result or parts thereof exhibit characteristics of plagiarism. An automated plagiarism check is only permitted in anonymized form. Prior to the automated plagiarism check, all features that allow conclusions to be drawn about the student and the examiners must be removed. The assessment of the examination performance may not be based exclusively on the results of an automated plagiarism check.

(4) Sections 1 and 2 apply accordingly to preliminary examinations, the final thesis and, if applicable, the colloquium. Section 3 shall apply accordingly to preliminary examinations and the final thesis.

### **§ 18 Waiver**

If the student declares in writing to the responsible examination office that he/she does not wish to take an examination, this examination is deemed to have been assessed as "insufficient" (5.0) or "failed" in the respective examination attempt. The waiver is irrevocable and requires admission in accordance with § 4.

### **§ 19 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 assessed as „pass“. Moreover, in cases that are defined in the module descriptions accordingly, passing the module exam depends on the grading of individual assessments with at least "sufficient" (4.0). If the student passed the module exam, he or she earns the credit points that are associated with the module in the module description.

(2) The Master examination is passed after all necessary module examinations, the Master thesis and the defence are all passed with at least grade "sufficient" (4.0).

(3) A module examination is failed if the module grade is not at least "sufficient" (4.0) or the ungraded module examination was assessed as "failed". The final thesis and, if applicable, the colloquium are failed if they are not graded at least "sufficient" (4.0).

(4) A module examination is definitively failed if the module grade is not at least "sufficient" (4.0) or the ungraded module examination was assessed as "failed" and it is no longer possible to retake it. The final thesis and, if applicable, the colloquium have been definitively failed if they have not been graded at least "sufficient" (4.0) and it is no longer possible to repeat them.

(5) The final university examination is not passed or definitively failed if either a module examination, the final thesis or, if applicable, the colloquium are not passed or definitively failed. § 3 section 1 remains unaffected. In the event of the final failure of a module examination in the compulsory elective area, the final failure of the final university examination shall only be decided in accordance with § 23 section 4 if the student does not change his or her choice within one month of the announcement of the result of the module examination or if a change of choice is no longer possible in accordance with the provisions of the study regulations. If the student has definitively failed the final university examination, he or she loses the right to take all components of the final university examination in accordance with § 2 section 2 sentence 1.

(6) The student will receive a grade certificate upon request. In the event of the final failure of the final university examination, the certificate must also provide information on the examination components completed and their assessment as well as any missing examination components and indicate that the final university examination has not been passed.

### **§ 20 Free attempt**

(1) Module examinations can also be taken before the semesters specified in the curriculum if the admission requirements are met. Taking the module examination for the first time then counts as a free attempt if and insofar as this is permitted in Section 2: Subject-specific provisions.

(2) At the student's request, module examinations or examinations graded at least "sufficient" (4.0) can be repeated once at the next regular examination date in order to improve the grade. In these cases, the better grade counts. The form and deadline for the application are determined by the Examination Board and announced in the usual manner. Once the next regular examination date

or the application deadline has passed, it is no longer possible to improve the grade. When repeating a module examination in order to improve grades, examinations that were graded at least "sufficient" (4.0) in the free attempt will be credited upon application by the student. Examinations that were assessed as "passed" in the free attempt are credited ex officio.

(3) A module examination not passed in a free attempt is deemed not to have been taken. Examinations that were graded at least "sufficient" (4.0) or "passed" will be credited in the subsequent examination procedure. If the option to improve grades in accordance with section 2 is used for examinations, the better grade will be taken into account.

(4) In addition to § 14 section 2, periods of interruption of studies due to a prolonged illness of the student or a child for whom he or she is primarily responsible, including children-in-law, adopted children and foster children as well as children, adopted or foster children of the spouse or life partner and periods of study abroad shall not be taken into account when applying the free attempt regulation.

## **§ 21**

### **Retaking module examinations**

(1) Failed module examinations can be retaken once within one year after completion of the first attempt. The deadline starts on the day students are notified of the first fail of the module exam. After the 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 retake exams they failed at the final attempt.

(3) The repetition of a failed module examination, which consists of several examinations, only includes the examinations that were not graded with at least "sufficient" (4.0) or "passed". When repeating a failed module examination that comprises one or more optional examinations, students are not bound to the previous selection of an examination that was not graded at least "sufficient" (4.0) or "passed". The retake of a passed module examination is not possible.

(4) The repetition of a passed module examination is only permitted in the case regulated in § 20 section 2 and includes all examinations.

(5) Failed attempts at the module examination from the same or other degree programmes are taken over.

## **§ 22**

### **Recognition of academic achievements and assessments, study periods and qualifications obtained outside universities**

(1) Academic achievements and assessments that were completed at another university are recognised upon application unless there are fundamental differences with regard to the competences acquired. Further agreements of the Technische Universität Dresden, of the German Rectors' Conference (*Hochschulrektorenkonferenz*), of the Standing Conference of the Ministers of Education and Cultural Affairs of the *Laender* in the Federal Republic of Germany (*Kultusministerkonferenz*) and those that have been ratified by the Federal Republic of Germany are to be respected if required.

(2) Qualifications that were not obtained during studies are recognized upon application provided they are equivalent. There is equivalence when contents, number of hours and requirements are in substantial accordance with parts of the Master programme Nanoelectronic Systems at Technische Universität Dresden. No schematic comparison shall be made but an overall analysis and an overall evaluation. Qualifications obtained outside a university may compensate for not more than 50% of studies.

(3) Study and examination achievements completed at a university can be credited despite significant differences if, due to their content and qualification objectives, they correspond overall to the meaning and purpose of an existing option of the degree program and therefore form a structural equivalent (structural crediting). The certificate will show the credits actually earned.

(4) If study and examination achievements or qualifications acquired outside a university are credited, the corresponding periods of study are also credited ex officio. If the grading systems are comparable, grades are to be accepted and included in the further grading. In the case of non-comparable grading systems, the note "passed" is included; grades from non-comparable grading systems are not included in further grading. The crediting is marked on the certificate.

(5) The student must submit the required documents for the credit transfer procedure. Once these have been submitted in full, the crediting procedure may not exceed two months. In the event of non-recognition, § 23 section 4 sentence 1 applies. If the student completes the corresponding examination during an ongoing credit transfer procedure, the assessment of the credited examination shall apply instead of the assessment of the completed examination if the application for credit transfer is granted.

(6) The Examination Board is responsible for crediting. It can appoint a crediting officer to carry out this task. This person shall carry out the crediting procedure independently. § 23 section 4 sentence 1 applies accordingly to the crediting officer.

### **§ 23 Examination Board**

(1) An Examination Board is formed for the degree course to conduct and organize the examinations and for the tasks assigned by the examination regulations. The Examination Board consists of four professors, one research assistant and two students. With the exception of the student members, the term of office is three years. The term of office of the student members is one year.

(2) The members and their deputies are appointed by the Faculty Council, Academic Council or Departmental Council of the degree programme provider or the Faculty Councils, Academic Councils or Departmental Councils of the degree programme provider; the student members and their deputies are appointed at the suggestion of the student representatives. The chairperson and the deputy chairperson are elected by the examination board from among its members and must each be a university lecturer.

(3) The Examination Board ensures that the provisions of the examination regulations are adhered to. It reports regularly to the course provider(s) and the faculties, centers or departments involved via teaching export on the development of examination and study times, including the actual processing times for the final thesis, as well as on the distribution of module and overall grades. The Examination Board makes suggestions for the reform of the examination and study regulations.

(4) Incriminating decisions must be communicated to the student concerned in writing or electronically, with reasons and information on legal remedies. The Examination Board, as the appeal authority, decides on appeals within a reasonable period of time and issues notices of appeal.

(5) As a rule, the chairperson conducts the business of the Examination Board. With the unanimous consent of the student members, the Examination Board may also delegate individual tasks to the chairperson for independent processing and decision-making; a resolution must be passed to this effect, which also contains the manner in which the members are to be informed of the decisions made by the chairperson. This does not apply to decisions in accordance with section 4 sentence 2. If individual or all members of the examination committee are newly appointed, any delegation shall expire.

(6) The Examination Board may admit guests to its meetings without voting rights. The members of the Examination Board have the right to attend the examination and, if applicable, the colloquium.

(7) The members of the Examination Board and their deputies are subject to official secrecy. If they are not in public service, they must be sworn to secrecy by the chairperson. The same applies to guests.

(8) The examination office assigned as responsible organizes the examinations and manages the examination files.

#### **§ 24**

##### **Examiners and co-examiners**

(1) The examination committee appoints the examiners – these are university lecturers and persons who are eligible to hold examinations pursuant to federal state law. Co-examiners must have passed a Master examination or a comparable exam in the relevant subject area.

(2) Students are entitled to propose a thesis advisor for their Master thesis. The proposal does not substantiate a claim.

(3) For examiners and co-examiners § 23 section 7 applies accordingly.

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

#### **§ 25**

##### **Purpose of the final university examination**

(1) Passing the final university examination constitutes the professionally qualifying degree of the degree programme.

(2) Passing the Bachelor's examination proves that the student has an overview of the subject-specific contexts, has a critical understanding of the most important theories, principles and methods of the subject, is able to deepen his or her knowledge beyond the discipline and has acquired the in-depth specialist knowledge required for the transition to professional practice. Furthermore, passing the Bachelor's examination proves that you are qualified to take up a Master's degree course.

(3) Passing the Diploma or Master's examination demonstrates that the student has an overview of the subject-specific contexts, can apply his or her knowledge and understanding as well as his or her problem-solving skills in new and unfamiliar situations that are related to the subject in a broader, multidisciplinary context, and has acquired the in-depth specialist knowledge required for the transition to professional practice. Furthermore, passing the Diploma or Master's examination demonstrates the ability to take up doctoral studies.

#### **§ 26**

##### **Thesis and colloquium**

(1) The purpose of the Master 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 thesis must be supervised by one of the examiners specified in section 7. This examiner determines the topic of the thesis and supports the student in the preparation of the thesis. The examiner may delegate the supervision of the thesis to a qualified person.

(3) The examination committee hands out the topic of the Master thesis. The topic and the date of handing it out shall be placed on record. Students can suggest preferred topics. Upon application of the student, the examination committee arranges for the issue of the topic for the Master thesis in good time. The topic is issued by the examination committee ex officio at the latest at the beginning of the semester that follows the completion of the last module exam.

(4) The topic can be returned only once and only within six weeks after it was issued. However, in case of a repeated Master thesis students are allowed to return the topic only unless they returned the topic in their first Master thesis attempt. In case the student has returned a topic, s/he must be given a new one without delay pursuant section 3, sentences 1 until 3.



(5) The thesis must be completed in German or, depending on the topic, in another language. In suitable cases, it may be completed in another language at the student's request if the Examination Board agrees to this in consultation with the examiner in accordance with section 2 sentence 1. It may also be submitted in the form of a group thesis if the individual contribution to be assessed as the student's final thesis is clearly distinguishable and assessable on the basis of the specification of sections, page numbers or other objective criteria that enable a clear distinction to be made and fulfills the requirements under section 1.

(6) The final thesis must be submitted in the form and number specified in Section 2: Subject-specific provisions to the responsible examination office by the deadline; the submission date must be recorded. The student must submit a written declaration stating whether he or she has written his or her thesis, or in the case of a group thesis, his or her appropriately marked part of the thesis, independently and has not used any sources or aids other than those specified.

(7) The final thesis must be assessed individually by two examiners in accordance with § 15 section 1 sentences 3 and 4. The assessment procedure should not exceed six weeks. Section 2: Subject-specific provisions may stipulate that one examiner may be replaced by an Examination Board. The individual assessment of the thesis is determined jointly by the members of the Examination Board in accordance with § 15 section 1 sentences 3 and 4.

(8) The grade of the final thesis is the average of the two individual assessments of the examiners. If the individual assessments of the examiners differ by more than two grade levels, the Examination Board will obtain an assessment from a further examiner. The grade of the thesis is then calculated from the average of the three individual assessments. § 15 section 3 sentence 3 applies accordingly.

(9) If one examiner has assessed the thesis with at least "sufficient" (4.0) and the other with "insufficient" (5.0), the Examination Board will obtain an assessment from another examiner. This examiner decides whether the thesis has been passed or failed. If the thesis is deemed to have been passed, the grade for the thesis shall be calculated from the average of the individual assessments of those who voted for passing, otherwise those who voted for failing. § 15 section 3 sentence 3 applies accordingly.

(10) A failed thesis can be repeated once within one year. After this period has expired, it is deemed to have been failed again. A second resit is only possible at the next possible examination date, after which it is deemed to have been definitively failed. A further repetition or repetition of a passed thesis is not permitted.

(11) The student must explain his or her thesis in a public colloquium in front of at least one of the examiners and one assessor if the final university examination includes a colloquium in accordance with § 2 section 2 sentence 1. As a subject-specific admission requirement, the thesis must have been assessed with a grade of at least "sufficient" (4.0) prior to the colloquium. In the colloquium, the student should demonstrate that he or she can present and discuss the results of the thesis in a coherent manner. Additional examiners may be consulted (peer examination). Section 10 as well as § 8 section 5 sentence 2, § 15 section 1 sentences 1 to 4 and § 15 section 7 sentence 1 apply accordingly.

(12) If, for reasons for which the student is not responsible, the time already taken to complete the thesis reaches twice the prescribed completion time for the thesis, the Examination Board may decide ex officio to terminate the thesis without result. Before a decision is made, both the examiner in accordance with section 2 sentence 1 and the student must be heard. The thesis may be terminated without result if the examination purpose of the thesis can no longer be achieved in relation to the time required to complete it. As part of the decision, the reasons for the time taken to complete the thesis, the consequences of the discontinuation for the student and the possibilities for a sensible continuation of the examination procedure must also be appropriately considered and weighed up against each other. If the examination board terminates the thesis without result, the

examination attempt is retained; current examination deadlines are extended. The Examination Board also determines how the examination procedure is to be continued. It will issue an appealable decision.

## § 27

### **Master degree certificate and certificate of grades**

(1) The student shall receive a certificate and a supplement to the certificate immediately, if possible within four weeks, upon passing the final university examination. Section 2: Subject-specific provisions may provide for the student to be issued with an additional supplement to the certificate. If Section 2: Subject-specific provisions provides for a division into sections, the student shall receive an interim certificate for the first section immediately, if possible within four weeks of passing the last module examination covered by this section.

(2) The certificate shall include the module assessments of the module examinations included in the final university examination and, if applicable, their credit indicators, the topic of the final thesis, its final grade in accordance with § 15 section 6 sentences 3 and 4, the examiners of the final thesis, the overall grade in accordance with § 15 section 6 sentence 2 and the credit points. The grades and, if applicable, credit indicators for the individual examinations, the thesis and, if applicable, the colloquium are listed on the certificate supplement. The interim certificate contains the module assessments of the module examinations covered by this section as well as the corresponding credit points and, if applicable, credit transfer indicators.

(3) The certificate and interim certificate shall bear the date of the day on which the last examination component pursuant to § 19 section 2 or § 19 section 1 sentence 1 was completed. They are signed by the chairperson of the Examination Board and bear the seal of the Technische Universität Dresden, which is maintained by the institution or an institution of the degree programme. The supplement to the certificate and, if applicable, the supplementary sheet to the certificate are signed by the chairperson of the Examination Board and bear the date of the certificate.

(4) At the same time as the certificate, the student receives a certificate with the date of the certificate. This certificate certifies the award of the university degree. In Bachelor's degree programmes, the Bachelor's degree, in Master's degree programmes the Master's degree and in Diploma degree programmes the Diploma degree is awarded in accordance with the regulations in Section 2: Subject-specific provisions. The certificate is signed by the chairperson of the Examination Board, bears the handwritten or typewritten signature of the Rector and bears the seal of the Technische Universität Dresden. In addition, the student will receive translations of the certificate and the transcript in English. If Section 2: Subject-specific provisions provides for cooperation with joint award of the degree, the certificate will be issued jointly by the Technische Universität Dresden and the cooperation partners.

(5) The Technische Universität Dresden issues a Diploma Supplement (DS) in accordance with the "Diploma Supplement Model" of the European Commission, the Council of Europe and UNESCO/CEPES. The current version of the text agreed between the *Kultusministerkonferenz* and *Hochschulrektorenkonferenz* is to be used to represent the national education system (DS section 8).

(6) Section 2: Subject-specific provisions may stipulate which additional information is to be shown on the certificate, the supplement to the certificate, the supplementary sheet to the certificate if applicable, the interim certificate if applicable and the certificate.

## **§ 28**

### **Invalid Master examination**

(1) If the student has cheated in an examination and this fact only becomes known after he or she has been issued with an interim certificate or transcript, the assessment of the examination may be amended in accordance with § 17 section 2 sentence 1. If necessary, the examination board can declare the module examination as “insufficient” (5.0) and the final university examination as “failed”. The same applies to ungraded module examinations and the final thesis and, if applicable, the colloquium.

(2) If the requirements for taking a module examination were not fulfilled without the student intending to deceive about this, and this fact only becomes known after the student has been issued with an interim certificate or transcript, this deficiency shall be remedied by passing the module examination. If the student has deliberately and wrongly obtained the passing of a module examination, the Examination Board may declare the module examination “insufficient” (5.0) and the final university examination “failed”. The same applies to ungraded module examinations and the final thesis and, if applicable, the colloquium.

(3) An incorrect interim certificate or an incorrect certificate and its translation as well as all other documents issued on the occasion of graduation must be withdrawn by the chairperson of the Examination Board and reissued if necessary. The certificate, all translations and the Diploma Supplement must also be confiscated together with the incorrect certificate if the final university examination was declared “failed” due to cheating. A decision in accordance with section 1 and section 2 sentences 2 or 3 is to be withdrawn after a period of five years from the date of the certificate.

## **§ 29**

### **Insight into the examination documents**

(1) After the examination result has been announced, the student is given the opportunity to inspect his/her written examination papers, assessment reports and examination transcripts. For this purpose, central inspection appointments are usually held within a reasonable period of time, but no later than eight weeks after the announcement of the examination result. If, due to the nature of the examination or for organizational reasons, no central inspection date is possible or planned, the student will be granted an individual inspection date upon request. In these cases, the application must also be submitted to the responsible examination office no later than eight weeks after the examination result has been announced. In any case, it must be ensured that the student only has access to the documents concerning him/her.

(2) Irrespective of the possibility of inspecting the examination documents in accordance with section 1, the student has the right to inspect the examination file held on him/her by the responsible examination office. This is governed by the statutory provisions.

## **Section 2: Subject-specific provisions**

## **§ 30**

### **Duration, structure and scope of studies**

(1) Pursuant to § 1 the standard period of study is 4 semesters.

(2) The course of studies has a modular structure and is completed with the Master thesis and the defence. The student can choose between the branch of study Nanoelectronics, and the branch of study Nanoscience and Nanotechnology. The academic achievements and assessments of the first year within the branch of study of Nanoscience and Nanotechnology are to be obtained at the KU Leuven (Belgium) as a compulsory year abroad.

(3) A total of 120 credit points in the modules, the final thesis and the colloquium are acquired by passing the final university examination in accordance with § 2 section 2 sentence 1.

### **§ 31**

#### **Subject-specific admission requirements for the final university examination**

Before the topic of the final thesis is issued, the module examinations of the Academic and Scientific Work and Project Work modules must have been passed and at least 70 credit points must have been earned.

### **§ 32**

#### **Bonus achievements**

Certain academic achievements (bonus achievements) can be used to voluntarily acquire bonus points for assigned examinations. If the examination achievement was graded at least "sufficient" (4.0), bonus points in addition to the assessment points earned by the student replace a maximum of 10% of the total number of points for the assigned examination achievement. The type and structure of bonus credits and their allocation to an examination must be regulated in the module descriptions. The number of bonus points to be acquired through a bonus achievement and the total number of points to be achieved in the associated examination achievement will be announced at the beginning of each semester in the usual manner. Bonus points earned shall only be taken into account in the binding examination date following the bonus achievement for the student. § 4 section 2, § 14 section 1 to 3, § 16 section 1 and 2 and § 17 section 1 to 3 apply to bonus credits accordingly.

### **§ 33**

#### **Subject, type and scope of the Master examination**

(1) The Master examination comprises all required module examinations, the chosen required elective modules and also the Master thesis and the defence; in the branch of study Nanoscience and Nanotechnology also the achievements that have to be obtained at the KU Leuven (Belgium).

(2) The compulsory modules are:

- Academic and Scientific Work
- Project Work

(3) In the compulsory elective area, the fields of study Nanoelectronics and Nanoscience and Nanotechnology are available, one of which must be chosen.

1. In the Nanoelectronics field of study:

- a) Modules of the compulsory area
  - aa) Confidential Computing
  - bb) Lab Sessions
  - cc) Semiconductor Technology
  - dd) Hardware/Software Codesign
  - ee) Radio Frequency Integrated Circuits

b) from the modules of the compulsory elective area according to annex 1, modules amounting to 41 credit points.

2. In the field of study Nanoscience and Nanotechnology, modules amounting to 15 credit points must be selected from the modules of the compulsory elective area in accordance with Annex 2. As an alternative to the compulsory elective modules listed here, modules from other degree programs may also be taken upon application by the student to the Examination Board.

### **§ 34**

#### **Time for working on the Master thesis, form and number of thesis; colloquium**

- (1) The time allowed for working on the Master thesis is 22 weeks, students earn 29 credits. In individual cases, the Examination Board may exceptionally extend the processing time by a maximum of half of the processing time upon justified request by the student; the number of credit points remains unaffected by this.
- (2) The thesis must be submitted in two typed and bound copies as well as in digital text form on a suitable data carrier.
- (3) The final university examination according to § 2 section 2 sentence 1 includes a colloquium. It has a duration of 60 minutes. 1 credit point is earned.

### **§ 35**

#### **Weightings for the overall and final grades**

- (1) When calculating the final grade in accordance with § 15 section 6, the grade for the thesis is weighted fourfold and the grade for the colloquium is weighted once.
- (2) The final grade of the thesis is weighted 30-fold when calculating the overall grade in accordance with § 15 section 6.

### **§ 36**

#### **Additional disclosures in final documents**

The chosen field of study and, at the student's request, the assessments of additional modules and the corresponding credit points as well as the duration of study required to complete the final university examination are also included in the certificate. The supplement to the transcript of records will also include the topic of the complex work of the Project Work module and, at the student's request, the assessments of examinations in additional modules.

### **§ 37**

#### **Master degree**

After the student has passed the Master examination, s/he is awarded the degree "Master of Science" (short: M.Sc.). Students of the branch of study Nanoscience and Nanotechnology are jointly awarded the degree by the KU Leuven (Belgium) and the TU Dresden.

### **Section 3: Closing provisions**

### **§ 38**

#### **Coming into force, public notice and transitional provisions**

- (1) These examination regulations become effective as of 1 June 2024 and are publicly announced in the Official Notices of Technische Universität Dresden.
- (2) They are valid for all students that are enrolled in the Master's programme Nanoelectronic Systems from the winter semester 2024/25 on.
- (3) For students enrolled before the winter semester 2024/25, the examination regulations that were valid before these examination regulations became effective continue being valid.
- (4) These examination regulations are valid for all students that are enrolled in the Master programme Nanoelectronic Systems from the winter semester 2026/2027.

(5) In the event of transfer in accordance with section 4, primarily the module examinations already completed, including the grades, and subordinately also individual examinations on the basis of equivalence tables, which are determined by the Examination Board and announced in the usual manner, are transferred ex officio. With the exception of § 21 section 5 of the examination regulations, module examinations and examinations not graded with at least "sufficient" (4.0) or "pass" will not be accepted. The module grade is generally not recalculated on the basis of grades for examinations that have only been transferred; exceptions can be found in the equivalence tables.

Issued on the basis of the decision of the faculty council of the Faculty of Electrical and Computer Engineering made on 27<sup>th</sup> February, 2024 and the approval of the rectorial board of 28<sup>th</sup> March, 2024.

Dresden, 26<sup>th</sup> April, 2024

The Rector  
of Technische Universität Dresden

Prof. Dr. Ursula M. Staudinger