

Course and Examination Regulations issued by Hamburg University of Applied Sciences (HAW Hamburg) for the **joint Master of Science degree programme in Microelectronic Systems** delivered in cooperation with FH Westküste University of Applied Sciences, Heide (FH Westküste)

Issued 3 July 2024

This is an unofficial English translation, for reference only, of the original German text of these Regulations. It is provided for informational purposes only and has no force independent of the original German text. The original German version as published on the above date shall be authoritative and definitive in all cases of dispute.

In the interest of non-discriminatory use of language, this English translation uses plural pronouns and/or singular 'they' wherever possible.

On 3 July 2024, acting pursuant to Section 108 subsection 1 sentence 3 of the Hamburg Higher Education Act (HmbHG) issued on 18 July 2001 (HmbGVBl., p. 171), last amended 11 July 2023 (HmbGVBl. pp. 250, 254), the Executive Board of HAW Hamburg confirmed the following [German] text of the *Prüfungs- und Studienordnung der Hochschule für Angewandte Wissenschaften Hamburg (Hamburg University of Applied Sciences) für den gemeinsam mit der Fachhochschule Westküste Heide (FH Westküste) angebotenen Masterstudiengang Microelectronic Systems*, proposed on 19 June 2024 by the Joint Committee for the Master of Science degree course in Microelectronic Systems (*Gemeinsamer Ausschuss, GA*) and adopted by the Faculty Council of the Faculty of Engineering and Computer Science of HAW Hamburg on 27 June 2024 pursuant to Section 91 subsection 2 no. 1 HmbHG:

Preamble

On the basis of an agreement concluded on 5 December 2005, Hamburg University of Applied Sciences (HAW Hamburg) and FH Westküste University of Applied Sciences, Heide (FH Westküste) have established an inter-institutional Master's degree course in Microelectronic Systems. The course leads to the degree of Master of Science (M.Sc.), which the two institutions award jointly. The course has a duration of three semesters; its structure enables entry at the commencement of each semester. HAW Hamburg plans and delivers teaching for the course in winter semesters and FH Westküste in summer semesters. Students can choose to complete their Master thesis either at FH Westküste or at HAW Hamburg.

Part 1: General provisions

Section 1 Structure and duration of degree course

- (1) The standard duration of this consecutive degree course is three semesters. Students complete their Master thesis during their third semester.
- (2) This Master of Science degree course is worth a total of 90 ECTS credit points (CP). One CP

corresponds to an average workload of 30 hours. Students shall be awarded 60 CP for each successfully completed year of study and 30 CP for each successfully completed semester. The two degree-awarding institutions shall be responsible for an equal proportion of the teaching to be delivered in the course; HAW Hamburg shall deliver teaching in winter semesters and FH Westküste shall deliver teaching in summer semesters.

Section 2 Requirements for admission to the degree course; admissions procedure

The Admissions and Selection Regulations for the Master of Science degree course in Microelectronic Systems at HAW Hamburg set out the requirements for admission to the degree course and govern the process of selecting applicants for admission, where HAW Hamburg is the admitting institution.

Section 3 Academic degree awarded upon completion

HAW Hamburg and FH Westküste shall jointly award the academic degree of Master of Science (M.Sc.) upon successful completion of the degree course.

Section 4 Objectives of the degree course

(1) The Master's degree examination has the purpose of ascertaining whether students are able to build on the knowledge and skills they have acquired during the degree course, working in a scientific, applied manner to advance and deepen them, and to make use of the scientific methods and knowledge they have gained to solve complex problems both in applied research and in practical application.

(2) The degree course seeks to provide its graduates with abilities in systemic thinking and with the capacity to design and realise comprehensive microelectronic systems. The course shall teach students the theoretical principles on which the realisation of such systems rests and enable students to acquire the procedures and tools needed for this realisation. Graduates of the degree course are qualified for a career in research, development and application within the field of microelectronic systems.

Section 5 Types of class and course offered; modular structure of degree course

(1) This Master's degree course shall be delivered via classes and courses of the following types:

- Lecture (*Vorlesung, V*)

A lecture involves the presentation and communication of foundational and specialist scientific knowledge and methodology by members of academic staff with the active involvement of the students; therefore, in the context of this degree course and of its Course and Examination Regulations, a lecture is always a seminar-style class. In combining elements of a lecture with practical tasks, it seeks to enable a student-centred process of interaction and feedback between teacher and students.

- Seminar-style class (*seminaristischer Unterricht, SemU*)

A seminar-style class involves the presentation and communication of specialist scientific knowledge and methodology by members of academic staff with the active involvement of the students. In combining elements of a lecture with practical tasks, it seeks to enable a student-centred process of interaction and feedback between teacher and students.

- Exercise (*Übung, Ü*)

Students are given tasks to solve under the instruction of academic staff.

- Laboratory practical (*Laborpraktikum, L*)

A laboratory (lab) practical is a class in which students carry out practical tasks set by and under the instruction of academic staff, working either individually or in a group. It may involve the conduction and completion of a project. The tasks set are aimed at developing students' knowledge and methodological skills in the various fields of application relating to microelectronic systems. They allow students to acquire experience and competence in the use of appropriate methodologies and to familiarise themselves with all associated resources, aids and techniques. The aim of laboratory practicals is to make students confident in the practical application of what they have learned in their lectures and classes.

- Small-group project (*Kleingruppenprojekt, KGP*)

A small-group-project involves students working in small teams on an assignment set by a member of academic staff, who meets with the students regularly to discuss their progress with the project and in their learning.

(2) These Course and Examination Regulations stipulate that attendance at lab practicals and exercises shall be mandatory. Students shall be deemed to have met the attendance requirements if they have attended the number or proportion of class hours (*Lehrveranstaltungsstunden*) specified for the class in question. Where a student has failed to meet the attendance requirements, the *Prüfungsvorleistung* (qualification for formal assessment) assigned to the class in question shall be graded 'unsuccessful' (*nicht bestanden*). Students may be permitted to catch up on missed exercises and lab practicals within the same semester in order to meet the attendance requirements, provided they had a reasonable excuse for missing the original classes.

(3) A module is a discrete course unit which is usually made up of multiple related classes and generally concludes with an examination or assessment (*Modulprüfung*). A module constitutes one component of the overall learning objectives for the degree course as a whole.

Section 6 Student advisory services and sessions

(1) Student advisory services and sessions are provided for the following purposes in particular:

- The communication of information to students on details of the degree course's structure and procedures and students' management thereof
- The provision of subject-specific advice to students changing institution or degree course

(2) Students who have exceeded the standard duration of the Master's degree course in Microelectronic Systems as specified in Section 1 subsection 1 above must attend a student advisory session within two semesters of the end of the standard duration of their course unless they have, by the end of this two-semester period, registered for the examinations/assessments they have yet to complete.

(3) The Faculty Council of the Faculty of Engineering and Computer Science at HAW Hamburg and the *Konvent Technik* of FH Westküste shall each appoint a member of professorial staff as academic advisors for the degree course. The academic advisors shall work in cooperation with one another, shall hold regular consultation hours for students and shall ensure that information sessions take place on a regular basis. They may consult other professors where required, particularly for the purpose of resolving issues relating to specific sub-disciplines covered by the degree course.

Section 7 Language of instruction and assessment

(1) The language of instruction and assessment for the degree course shall be English.

(2) Students may apply to undergo examinations/assessments, and/or submit their Master thesis and/or complete their Master's colloquium, in German. Modules on which the student was examined/assessed in German shall be labelled as such in documents confirming the student's successful completion of the degree course.

Section 8 Examinations Committee

(1) A joint Examinations Committee, consisting of members of both institutions, shall be convened for the purpose of organising and conducting examinations and assessments, and discharging the associated duties as set out in these Regulations. The Committee shall comprise two professors from each institution and one member of non-professorial academic staff from each institution, plus one member of the Microelectronic Systems student body; it shall therefore have a total of seven members.

(2) Each institution shall elect the members it delegates to the Committee, plus a deputy for each member. The Dean's Office of the Faculty of Engineering and Computer Science shall appoint HAW Hamburg's Committee members. The Committee shall elect one of its members as Chair and a further one of its members as deputy Chair. Both the Chair and the deputy Chair must be professors; it shall not be permissible for them to both be from the same institution (HAW Hamburg or FH Westküste).

(3) The Committee shall ensure compliance with the provisions of these Regulations.

(4) The members of the Committee have the right to attend examinations and assessments. Non-members of the Committee shall not be admitted to its meetings. The Committee's members shall keep all information and discussions relating to individual students' examinations and assessments strictly confidential.

(5) The Committee shall be quorate when all members have received appropriate notification of the meeting and at least two members from each institution, one of whom must be the Chair or her or his deputy, are present. The Committee shall take decisions by simple majority vote. The Chair shall have the casting vote if a vote is tied. The student member of the Committee shall have voting rights only insofar as the matter under discussion pertains to fundamental or organisational issues of the Committee's remit and the conduction of examinations and assessments [and shall have no vote on decisions pertaining to individual students].

(6) The Examinations Committee may draw up rules of procedure for its work, which may in particular specify circumstances under which decisions may be arrived at by circulation of documents in lieu of an in-person meeting and circumstances under which specific powers of the Committee may be transferred to the Chair. Appeals against decisions taken by the Chair may be made to the Examinations Committee as a whole; the lodging of such an appeal shall suspend the effect of the decision appealed.

(7) Each semester, the Examinations Committee shall draw up a timetable with dates for the written and oral examinations that take place during the degree course. As a rule, students will be able to use a computer-assisted procedure to register for the examinations.

Section 9 Examiners

(1) The minimum requirement for appointment as an examiner is that the individual in question hold the qualification to which the examination leads or an equivalent qualification.

(2) The members of academic staff who deliver teaching for the classes comprising a module shall act as examiners for that module. The Examinations Committee shall take decisions on exceptions

to this rule. If there is only one examination/assessment for a module, but multiple teaching staff have delivered relevant classes, the Examinations Committee may determine which member of staff shall act as examiner.

(3) Students may propose examiners for their Master thesis, and their proposal shall be approved where possible and appropriate, Second examiners for Master theses shall meet the qualification specified in Section 9 subsection 1 above and shall come from the institution that the first examiner does not belong to. At least one of the two examiners must be a professor.

(4) The Chair of the Examinations Committee shall appoint examiners four weeks before the examination in question at the latest.

(5) The examiners shall not be bound by instructions from other parties in their assessment of examinees.

Section 10 Prüfungsvorleistungen

(1) A *Prüfungsvorleistung* (qualification for formal assessment) is an assessment which a student must have successfully completed and passed before being permitted to undergo the examination or assessment (*Prüfungsleistung*) for the relevant module. *Prüfungsvorleistungen* are not graded, and are assessed only as a pass or unsuccessful.

(2) *Prüfungsvorleistungen* can take the forms detailed in Section 11 subsection 2 below.

(3) Students may repeat *Prüfungsvorleistungen* as often as required.

Section 11 Studien- and Prüfungsleistungen; forms of examination and assessment

(1) Students complete *Prüfungsleistungen* and *Studienleistungen* for specific modules in one of the forms detailed below; *Prüfungsleistungen* are graded, while *Studienleistungen* are not graded and are assessed only as a pass or unsuccessful.

(2) The forms of examination/assessment that may be used in this degree course are:

a) Written examination (*Klausur*, K)

A written examination is completed under invigilation. Students must complete the questions set on their own, either without the use of study aids or with the use of specified study aids only. Written examinations in this degree course shall not use multiple choice questions. Written examinations shall last at least 90 and no longer than 180 minutes.

b) Lab work completion (*Laborabschluss*, LA):

Laboratory (lab) work is successfully completed when students have successfully conducted the experiments set by the examiner during the semester and have demonstrated their knowledge by taking part in associated colloquia in accordance with c) below and/or by submitting written records of their experimental work and/or by completing set written tasks. The written work must be submitted by a deadline set by the examiner; the latest deadline is the end of the semester in which the class in question was taken.

c) Colloquium (Ko)

A colloquium is an oral examination among whose purposes is to establish that written work previously submitted for assessment was all the student's own work. A colloquium shall last at least 15 and no longer than 45 minutes.

d) Oral examination (*Mündliche Prüfung*, M)

In an oral examination, a student must demonstrate in discussion with the examiner that they have fully learned and understood the material on which they are being examined. Oral examinations may be conducted as individual or group examinations. Where they are not conducted by two examiners acting on an equal basis, they shall be conducted by one examiner in the

presence of a supplementary assessor (*Beisitzenden*), who must hold at least the qualification to which the examination leads. Oral examinations shall last at least 15 and no longer than 45 minutes for each examinee. Members of the two degree-awarding institutions shall be permitted to attend oral examinations, with the consent of the examinee(s) and as far as space in the examination venue permits. Where more people wish to attend an oral examination than space is available, students intending to take the same examination in the next examination session shall receive preferential admission. The examiners' discussion on the examinees' performance and the announcement of results to the examinees shall take place in private.

e) Presentation (*Referat*, R)

In this degree course, a presentation has a written and an oral part. The written part encompasses a written response to a set task that broadens or deepens the topics covered in the relevant class. Students shall have a maximum of six weeks to complete this task. A written record shall be made of the period of time allowed for the task's completion. The oral part of the presentation involves the student detailing the results attained in the written task, without reading from a script, and then explaining their findings in a discussion. The oral presentation and discussion shall last at least 15 and no longer than 45 minutes in total.

f) Written paper/project paper (*Haus- und Projektarbeit*, HA)

A written paper/project paper involves students creating a piece of written work alone or in groups. A piece of group work must indicate clearly which part(s) was (were) completed by which student. Students may additionally be required to give an oral presentation on the results of their work. Students shall have a maximum of twelve weeks to complete a written paper/project paper. Where an oral presentation is additionally required, this shall last at least 15 and no longer than 45 minutes; in group presentations, each student shall speak for at least 15 and no longer than 45 minutes.

g) Computer-assisted written examination (*Klausurähnliche Computeranwendungen*, KC)

A computer-assisted written examination is an assessment that takes place using an appropriate computer program. Students must complete the questions set on their own, either without the use of study aids or with the use of specified study aids only. A computer-assisted written examination shall last at least 60 and no longer than 120 minutes. The systems used must ensure that the electronic data submitted in the context of this type of examination can be unambiguously and permanently associated with the student who completed the examination.

h) Portfolio examination (PP)

A portfolio examination is a type of assessment consisting of not more than six distinct components, in at least two different forms of assessment chosen from the forms of assessment listed in a) and c) to g) above. At the beginning of the class or course, the member of academic staff in charge of delivering it shall determine and announce which components will comprise the portfolio examination, along with their weightings. Where the class concludes with a *Prüfungsleistung*, the overall grade for the portfolio examination shall be calculated from each individual component, weighted in accordance with the weighting announced at the outset of the course. The total workload of a portfolio examination shall not exceed the workload that would pertain to each form of assessment used were they to be used as the sole component of the examination.

(3) Absent other provisions on this matter within these Regulations, the examiner in each case shall determine the type of examination/assessment to be used, its duration, and the formal conditions under which the examination/assessment is to take place, specifying in particular the type and extent of study aids students shall be permitted to use.

Section 12 Grading of *Prüfungsleistungen*

(1) Assessment and grading take place upon the performance of individual students. Work completed as a group can only be credited to individuals as a *Prüfungsleistung* if the work of each individual within the group is clearly identifiable.

(2) *Prüfungsleistungen* shall be awarded grades as follows:

1.0	=	very good	awardable to an outstanding performance
and		(<i>sehr gut</i>)	
1,3			
1.7,	=	good (<i>gut</i>)	awardable to a performance that significantly exceeds average
2.0			expectations
and			
2.3			
2.7,	=	satisfactory	awardable to a performance that meets average expectations
3.0		(<i>befriedi-</i>	
and		<i>gend</i>)	
3.3			
4.0	=	sufficient	awardable to a performance that meets expectations despite
		(<i>ausreichend</i>)	weaknesses
5.0	=	unsuccess-	awardable to a performance that does not meet expectations
		ful/pass	due to considerable weaknesses
		grade not	
		reached	
		(<i>nicht</i>	
		<i>ausreichend</i>)	

(3) A *Prüfungsleistung* that has received a grade poorer than 4.0 shall be deemed unsuccessful (*nicht bestanden*).

(4) Examiners should complete their grading of *Prüfungsleistungen* within four weeks of the date of examination/assessment.

(5) Students receive credit points for completed modules in accordance with the European Credit Transfer System (ECTS). The number of ECTS credit points (CP) awardable for a module completed with a successful *Prüfungsleistung* is detailed in Section 23 subsection 1 below. The number of CP awardable to a successfully completed Master thesis and Master's colloquium is detailed in Section 23 subsection 2 below.

Section 13 Resits/retakes of examinations and assessments; no disregarding examination attempts; no resits for the sole purpose of improving grades

(1) Students shall not be permitted to retake *Prüfungs-* or *Studienleistungen* that they have previously passed.

(2) Students may make two further attempts at any *Studien-* or *Prüfungsleistung* which they did not pass at the first attempt.

(3) Once a student has exhausted all available resits/retakes without success, the examination/assessment in question shall be deemed 'conclusively unsuccessful' (*endgültig nicht bestanden*).

(4) A Master thesis (see Section 24) awarded a grade poorer than 4.0 shall be deemed 'unsuccessful' (*nicht bestanden*). Students may resubmit their Master thesis once. To do so, they must apply to the Chair of the Examinations Committee within six months of having been notified of the result

of their previous attempt. If they fail to keep this deadline, any resubmission shall be deemed 'unsuccessful' (*nicht bestanden*). Students may resubmit a second time if they have demonstrably good reasons, with which the Examinations Committee agrees, for requiring this concession. Students may repeat their Master's colloquium twice.

(5) This degree course does not permit students to undertake a disregarable ('free') examination attempt as set out in Section 60 subsection 1 no. 13 of the Hamburg Higher Education Act (HmbHG).

Section 14 Documents confirming successful completion of the degree course: Certificate of Examinations (*Zeugnis*), degree certificate (*Urkunde*)

(1) Students shall receive documents confirming successful completion of the degree course once the following conditions are met:

1. prior submission of proof of the qualification that entitled the student to enrol in the Master's degree course in Microelectronic Systems at HAW Hamburg or FH Westküste;
2. proof of enrolment in the Master's degree course in Microelectronic Systems;
3. proof of having met any conditions placed upon the student's enrolment, that is, the successful completion of any outstanding *Prüfungs-* and/or *Studienleistungen* from prior Bachelor's degrees;
3. successful completion of all *Prüfungs-* and *Studienleistungen* as set out in Section 23 subsection 1 below; and
4. successful completion of the Master thesis and the Master's colloquium.

(2) The student's Certificate of Examinations and degree certificate will be issued in German, and an English translation will be supplied with each.

(3) The Chair of the Examinations Committee shall sign the Certificate of Examinations, which shall include two dates: the date of the Certificate of Examinations' issue and the date on which the student was deemed to have successfully completed the degree course. The date of issue is the date on which the student's successful completion of the degree course was confirmed. The date of successful completion is the date on which the student passed their last examination; as a rule, this is the date on which the final *Studien-* or *Prüfungsleistung* taken by the student was awarded its final and irrevocable grade. The Certificate of Examinations shall include the names of the modules taken, as set out in Section 23 subsections 1 and 2, and the grades achieved in the module examinations and assessments and the overall final grade for the degree course. It shall additionally include the grades attained in the Master's colloquium and Master thesis and the topic of the Master thesis.

(4) At the same time as they are issued with their Certificate of Examinations, graduates will receive their degree certificate, which shall contain the date of issuance of the Certificate of Examinations. The certificate confirms the conferment of the academic degree [of Master of Science] upon the graduate. The degree certificate shall be signed by the Dean of the Faculty [*Fachbereich*] of Engineering at FH Westküste and the head of the Department of Information and Electrical Engineering, Faculty of Engineering and Computer Science, at HAW Hamburg; it shall carry the seals of both institutions.

(5) The two degree-awarding institutions shall issue a Diploma Supplement (DS) and a Transcript of Records alongside the Certificate of Examinations and the degree certificate. The Diploma Supplement shall comply with the stipulations of the ECTS Diploma Supplement Explanatory Notes. Both of these documents shall be issued in English.

(6) Students who have been conclusively unsuccessful in passing the requisite examinations and

assessments for completing the degree course shall receive written confirmation of this, to include a notice of their right to appeal.

Section 15 Recognition of prior learning (periods of study, *Studien-* and *Prüfungsleistungen*)

(1) Periods of prior study and practical experience completed at a higher education institution and previously successfully completed *Studienleistungen* and *Prüfungsleistungen* shall be recognised upon the student's application, where no significant differences are evident between the competencies the student attained during this prior learning and those the student would attain via the learning they would complete in the current degree course if recognition were denied.

(2) Knowledge and skills acquired via means other than study at a higher education institution, which are deemed equivalent to those acquired via such study and which are necessary for the successful completion of the degree course, shall be recognised, provided no more than half of the *Studien-* and *Prüfungsleistungen* required for completion of the degree course are replaced by this recognition.

(3) Decision-making on the recognition of prior learning and attainments achieved outside Germany shall take account of the equivalency agreements approved by the German Standing Conference of Ministers of Education and Cultural Affairs (*Kultusministerkonferenz*) and the German Rectors' Conference (*Hochschulrektorenkonferenz*) and of agreements with partner institutions. Conditional recognition shall be permissible.

(4) Students shall direct requests for recognition to the Examinations Committee, which is the authority responsible for taking decisions on these matters. They must do so before having taken the examination or assessment they wish their prior attainments to replace. Requests for recognition must specify the *Studien-* or *Prüfungsleistungen*, or the periods of study or practical experience, which the student wishes their prior attainments to replace. Students are responsible for ensuring their request is accompanied by all the requisite supporting documents.

(5) If the Examinations Committee denies recognition of any attainments, it shall notify students of this decision in writing, providing its reasons for denial and informing the student concerned of their right to appeal the decision.

(6) The grades awarded to recognised *Prüfungsleistungen* shall be accepted and included in the calculation of the student's overall final grade, provided the grading system employed is comparable to that used in this degree course. Where the grading systems are not comparable, the *Prüfungsleistung* shall be deemed to be a pass (*bestanden*) and excluded from the calculation of the student's overall final grade.

Section 16 Use of unfair means in examinations and assessments; disruptive behaviour; failure to meet deadlines

(1) In the event that a student attempts to use unfair means (cheat) in an examination or assessment taken under examination conditions, the invigilator shall make a written record of the incident and submit it to the Chair of the Examinations Committee without delay. Nevertheless, an attempt to use unfair means that takes place during the completion of a *Prüfungsleistung* shall not disqualify the student from continuing with the *Prüfungsleistung*, unless the student has behaved disruptively as defined in subsection 2 below. The Examinations Committee shall rule on whether or not the incident constitutes attempted use of unfair means. Before coming to its decision, it

shall afford the student the opportunity to give their account of the incident. Where the Examinations Committee finds that attempted use of unfair means has taken place, it shall grade the *Prüfungsleistung* concerned with 'unsuccessful' (*nicht ausreichend*) or the numerical grade 5.0; a *Studienleistung* under these circumstances shall be deemed 'unsuccessful' (*nicht bestanden*).

(2) Students who wilfully disrupt an examination and disturb other students or disrupt any oral discussion taking place may be required to leave the examination by the invigilator if they persist in their disruptive behaviour after having been given a warning. Subsection 1 sentences 1, 3 and 4 shall apply accordingly. Where the Examinations Committee finds that the student exhibited disruptive behaviour that justified their exclusion from the examination, it shall award them a grade of 'unsuccessful' (*nicht ausreichend*) or the numerical grade 5.0 for the *Prüfungsleistung* in question. A *Studienleistung* under these circumstances shall be deemed 'unsuccessful' (*nicht bestanden*). Where the behaviour is found to have fallen short of the threshold for exclusion from the examination, the student is to be given the chance to complete the *Prüfungs-* or *Studienleistung* at the earliest opportunity.

(3) A student who fails to meet binding deadlines for completing *Prüfungs-* or *Studienleistungen* as set out in Section 23 below, or for completing their Master thesis as set out in Section 24 below, or who fails to attend an examination [for which they have registered], shall be awarded a grade of 'unsuccessful' (*nicht ausreichend*) or a numerical grade of 5.0 for the relevant *Prüfungsleistung*; a *Studienleistung* under these circumstances shall be deemed 'unsuccessful' (*nicht bestanden*). The Chair of the Examinations Committee shall have the power to extend the deadline appropriately where there are compelling extenuating circumstances and where the type of examination or assessment allows for such an extension. The student in question must make a credible written submission to the Chair of the Examinations Committee without delay, outlining the extenuating circumstances. Section 17 subsection 2 shall apply accordingly.

(4) The Examinations Committee shall inform the student without delay and in writing of its decision, providing reasons for the decision and setting out the student's right of appeal.

Section 17 Non-completion of examinations

(1) Students may abandon an examination [or formal assessment] before completing it if there is an urgent and exigent reason for them to do so.

(2) The student shall submit a clear and credible account of their reasons for leaving the examination to the Chair of the Examinations Committee without delay and in writing. In the event of illness, the student shall, without delay, submit a medical certificate to the Chair of the Examinations Committee. The Chair may exempt the student from the requirement to submit a medical certificate if it is obvious that the student is ill.

(3) A student who abandons an examination in the absence of urgent and exigent reasons to do so shall be awarded a grade of 'unsuccessful' (*nicht ausreichend*) or the numerical grade 5.0 for the examination in question; a *Studienleistung* under these circumstances shall be deemed 'unsuccessful' (*nicht bestanden*).

Section 18 Consideration of special circumstances/reasonable adjustments (*Nachteilsausgleich*) for students with disabilities or long-term/chronic health conditions

(1) Upon receipt of a written or electronic request for consideration of special circumstances, or reasonable adjustments, from a student with a disability or a long-term/chronic health condition who submits credible proof that they are unable, by reason of this, to complete all or some of the

Prüfungs- and/or Studienleistungen of the degree course in the form prescribed or within the deadlines specified, the Chair of the Examinations Committee may direct that appropriate action be taken to safeguard the student's equality of opportunity. Such action may include, in particular, the extension of deadlines for the completion of examinations/assessments or the completion of examinations or assessments in forms equivalent to those originally prescribed. In the event that a student is unable to meet specified attendance requirements as a result of their disability or long-term/chronic health condition, the Chair of the Examinations Committee may set alternative, appropriate requirements for the student to meet instead. She or he shall likewise determine appropriate alternative requirements for students whom exceptional circumstances render unable to complete mandatory periods of practical experience.

(2) The Chair of the Examinations Committee shall consult the appointed representative for students with disabilities/long-term health conditions (*Behindertenbeauftragte*r*) pursuant to Section 88 subsection 3 of the Hamburg Higher Education Act (HmbHG) when taking decisions pursuant to subsection 1 above.

(3) Students applying for consideration of special circumstances/reasonable adjustments shall set out their reasons for doing so. The Chair of the Examinations Committee may require them to provide appropriate supporting evidence, which may in particular consist in a medical certificate. Such a certificate must, at a minimum, specify: the physical limitations and/or mental health difficulties resulting from the student's disability or long-term health condition and the impact in medical terms of these limitations or difficulties on the student's ability to complete their studies and/or examinations; the date of the medical examination on which the certificate is based; and the issuing doctor's prognosis on the likely duration of the disability or long-term health condition. The Chair of the Examinations Committee may release the student from the requirement to submit a medical certificate if it is obvious that the student has a disability or a long-term health condition that limits their ability to complete their examinations.

Section 19 Pregnancy and protected maternity leave (*Mutterschutz*) pursuant to maternity protection law

(1) Pregnant students should notify their institution of their pregnancy and their estimated date of delivery in accordance with Section 15 subsection 1 in conjunction with Section 2 subsection 2 sentence 2 no. 8 of the Maternity Protection Act (*Mutterschutzgesetz*). A student who is breastfeeding should notify the appropriate office or authority that she is breastfeeding at as early a stage as possible.

(2) During her ante- and postnatal periods of protected maternity leave pursuant to German maternity protection law (*gesetzliche Mutterschutzfristen*), a student shall not be permitted to take examinations or attend mandatory classes, unless she notifies her institution, explicitly and in writing, that she wishes to do so during this period.

(3) The submission of a request by a pregnant student shall have the effect, throughout the fullest possible extent of a student's periods of protected maternity leave, of suspending or extending any deadline [for the completion of studies, examinations, assessments, etc.] specified in these Regulations, to the maximum permitted extent. Any such suspension or extension of deadlines shall not continue beyond the maximum permitted extent. If a student's protected maternity leave prevents her from completing an assessed assignment to the latest possible deadline, the student shall be deemed to have withdrawn from the examination/assessment for an urgent and exigent reason. The student cannot be permitted to retake the examination or assessment on the same

topic, and will receive a new topic when she registers to retake it.

(4) Where a pregnant student is unable to attend non-mandatory classes and examinations due to her pregnancy, she may request the setting of alternative arrangements for the acquisition and examination of the knowledge and skills they concern, and the Examinations Committee shall give this request due consideration. The Chair of the Examinations Committee may set appropriate alternative requirements in these cases. Where it is possible to give consideration to the special circumstances of a student in this situation, the Chair of the Examinations Committee shall determine the details of this consideration. In exceptional circumstances, the Chair shall likewise, where possible, set alternative requirements to replace the completion of mandatory periods of practical experience.

(5) Students shall provide appropriate documentary evidence of their pregnancy when making notifications and requests pursuant to this section of these Regulations.

Section 20 Maternity/parental leave and carer's leave

(1) A period of maternity/parental leave pursuant to Section 15 of the German Parental Allowances and Parental Leave Act (*Bundeseltern-geld- und Elternzeitgesetz*, BEEG) or of carer's leave pursuant to Section 3 of the German legislation on carer's leave (*Pflegezeitgesetz*, PflegeZG) shall, upon the student's request, pause the progress of any periods of time leading to a deadline as set out in these Regulations, with the effect that the time elapsing during the period of maternity leave does not count as time elapsing for the purposes of the deadline.

(2) Section 19 subsections 3, 4 and 5 shall apply accordingly.

Section 21 Student parents

Student parents enrolled in this degree course may request the consideration of their particular needs. Periods during which the student is required to miss examinations or assessments due to a child's illness or due to the unavoidable unavailability of their childcare arrangements shall be treated in a manner equivalent to an illness sustained by the student themselves and recognised as extenuating circumstances pursuant to Section 16 subsection 3 above or as an urgent and exigent reason pursuant to Section 17 subsection 2 above. This recognition is contingent upon the student's submission of appropriate proof of the childcare emergency, either a certificate issued by the paediatrician treating the child or confirmation from the institution or person providing the child's usual childcare.

Part 2: Details of the Master of Science degree course in Microelectronic Systems

Section 22 Form and extent of the examination for the degree of Master of Science in Microelectronic Systems

The examination for the degree of Master of Science in Electronic Systems consists in the completion of the *Prüfungs-* and *Studienleistungen* prescribed for the first year of study and the Master thesis alongside the associated Master's colloquium.

Section 23 Attainments to be completed in the first year of study

(1) Students in their first year of study shall attend and complete classes and courses as follows, completing the associated *Studien-* and *Prüfungsleistungen* and *Prüfungsvorleistungen*.

Classes and courses that run in **winter semester**:

Module	Abbreviation for module	Type of class/course	SWS	Semester (winter/summer)	Type of examination/assessment	Form taken by examination/assessment	CP	Weighting
M1: System on Chip	SOCL	L	1	W	PVL	LA	6	6
	SOC	SemU	3	W	PL	K/M/R		
M2: Embedded Signal Processing	ESPL	L	1	W	PVL	LA	6	6
	ESP	V	3	W	PL	K/M/R		
M3: Smart Sensor Systems	SMSL	L	1	W	PVL	LA	6	6
	SMS	V	3	W	PL	K/M/R		
M4: Sustainable Research Project 1	SRP1	KGP	1	W	SL	R, PP	6	-
M5: General Elective Module 1	GEM1L	L	1	W	PVL	LA	6	6
	GEM1	SemU	3	W	PL	K/M/R/PP		
Total			17				30	24

The abbreviations used in this table refer to the definitions of types of class/course and examination/assessment as set out above.

Classes and courses that run in **summer semester**:

Module	Abbreviation for module	Type of class/course	SWS	Semester (winter/summer)	Type of examination/assessment	Form taken by examination/assessment	CP	Weighting
M6: Microtechnology (12345)	MTYL	Ü	1	S	PL	K/M/R	5	5
	MTY	V	3	S				
M7: Chip Design	CHDL	L	3	S	PVL	LA	5	5
	CHD	V	1	S	PL	K/M/R		
M8: Machine Learning on Embedded Devices	MLEL	L	2	S	PL	K/M/R	5	5
	MLE	V	2	S				
M9: High-Speed Digital Design	HSDL	L	2	S	PVL	LA	5	5
	HSD	V	2	S	PL	K/M/R		
M10: Sustainable Research Project 2	SRP2	KGP	1	S	SL	R, PP	5	-
M11: General Elective Module 2 (FH Westküste Master's Courses)	GEM2L	L	2	S	PVL	LA	5	5
	GEM2	V	2	S	PL	K/M/R/H A/KC		
Summe			21				30	25

The abbreviations used in this table refer to the definitions of types of class/course and examination/assessment as set out above.

Key to abbreviations:

LVA = Type of class/course

PL = *Prüfungsleistung*

Semester = When module and its examination/assessment run: winter semester (W) or summer semester (S)

PVL = *Prüfungsvorleistung*

CP = Number of ECTS credits (credit points, CP) awardable for successful completion of this module

V = Lecture (*Vorlesung*)

L = Laboratory practical (*Laborpraktikum*)

Ü = Exercise (*Übung*)

SemU = Seminar-style class (*Seminaristischer Unterricht*)

S = *Studienleistung*

KGP = Small-group project (*Kleingruppenprojekt*)

K = Written examination (*Klausur*)

- KC = Computer-assisted written examination (*Klausurähnliche Computeranwendung*)
 HA = Written paper/project paper (*Haus- und Projektarbeit*)
 R = Presentation (*Referat*)
 M = Oral examination (*Mündliche Prüfung*)
 PP = Portfolio examination (*Portfolioprüfung*)
 LA = Lab work completion (*Laborabschluss*)

(2) During their third semester, students shall complete their Master thesis (see Section 24 below) and the associated colloquium.

Module	Abbreviation for module	Type of class/course	SWS	Semester	Type of examination/assessment	Form taken by examination/assessment	CP	Weighting
Master thesis and Master's colloquium	MTH	--	--	3	PL	MT	27	24
	MCO				PL	MK	3	6

Key to abbreviations:

- MT = Master thesis
 MK = Master's colloquium

(3) Where more than one potential form of examination/assessment is given for a module, the examiner for the module shall, at the commencement of the classes and courses for the module for that semester, notify the students and the Examinations Committee of the form in which students shall complete the *Prüfungsleistung*.

(4) The required elective (*Wahlpflicht*) modules M5 (General Elective Module 1) and M11 (General Elective Module 2) can relate to mathematical, scientific, technical, business and/or general academic topics. Students can choose from a range of modules, taught in English and German, which the institution delivering the modules in question shall announce in good time before the commencement of the semester and via appropriate means. The academic staff responsible for the course shall ensure that an adequate number and range of modules taught in English are available, to ensure that students can complete their degree course entirely through the medium of English and within the specified standard duration. As a rule, required elective modules shall take place at the institution that is responsible for delivering teaching in the relevant semester (winter semester: HAW Hamburg; summer semester: FH Westküste). Exceptions to this rule may be granted upon request.

(5) Modules M4 (Sustainable Research Project 1) and M10 (Sustainable Research Project 2) entail the completion of small-group projects on set topics derived, as a rule, from [present] research and development projects at the two degree-awarding institutions; assessment of the projects will incorporate assessment of the sustainability both of the solution to the issue proposed by the group and of its proposed practical realisation. Students will receive notification of topics in an appropriate form and at an appropriate time.

Section 24 Master thesis

(1) A Master thesis, in the context of this degree course, is the substantial piece of written work with which students complete the degree course; it may have a theoretical, experimental, empirical and/or software engineering focus. The purpose of the Master thesis is for the student to demonstrate, over and above the demonstration of their knowledge and skills in module examinations/assessments, that they are able to engage independently with problems drawn from the scientific, applied, and professional fields to which this degree course relates, making use of scientific knowledge and methodologies; contextualise the associated transdisciplinary issues and frameworks; and develop and advance the insights attained during their degree course in line with the principles of applied scientific work.

(2) Students may register their thesis topic once they have attained at least 48 credit points in the degree course in accordance with the provisions of these Regulations; this total may include recognised prior attainments pursuant to Section 15 above.

(3) Any professor who delivers teaching of modules set out in Section 23 of these Regulations may supervise a student's Master thesis (act as its supervising examiner). The Examinations Committee may appoint further examiners in compliance with the provisions of Section 9 subsection 1 of these Regulations. Students may propose a topic for their Master thesis. The topic must be one that the student can realistically complete within the six-month period prescribed for the Master thesis.

(4) The Chair of the Examinations Committee, having checked that the student has met the criteria specified in subsection 2 above, shall issue the student with their Master thesis topic.

(5) Students shall submit their completed Master thesis six months at the latest after issuance of the topic. To do so, they shall submit three copies of the thesis to the Chair of the Examinations Committee; one of these copies shall be for their supervising examiner, one shall be made available for viewing, and one shall be for the second examiner. They may submit the copies of the thesis in person or by post; theses submitted by post shall be deemed to have met the submission deadline if the postmark is not later than the day on which the deadline expires. The date of submission of the thesis shall be noted in the student's academic record.

(6) The Examinations Committee may extend the deadline for submission by a maximum total of two months, provided the student applies for an extension in advance of the original deadline and details an exigent reason for the request; any such extension shall not result in the student having more than eight months in total to complete and submit the thesis. The Examinations Committee shall ascertain the views of the student's supervising examiner on the matter before taking the decision.

(7) Students shall, when they submit their Master thesis, affirm in writing that the thesis – or, in the case of a group thesis, the relevant section(s) – is their own independent work, completed without the help of any other party, and that only the specified sources and study aids were used. They shall submit this affirmation along with their thesis. This affirmation, in German legal terms, is an *Erklärung an Eides Statt*, that is, 'a declaration in lieu of an oath'. The student must fully and unambiguously reference all verbatim and paraphrased quotations and ideas taken from other sources.

(8) In the absence of compelling reasons to the contrary, the thesis shall be assessed by the student's supervisor (supervising examiner) and by a second examiner, each to be appointed by the Chair of the Examinations Committee. The supervising and second examiners should not be from the same institution. Each examiner assesses and grades the thesis individually and draws up a written report. Further, the two examiners, working together, shall examine the student in a colloquium, which each examiner shall grade individually. The colloquium is an oral examination among

whose purposes is to establish that the thesis is all the student's own work. The examiners shall make a written record of the colloquium, which shall last at least 30 and no longer than 45 minutes.

(9) The grades awarded for the Master thesis and the Master's colloquium shall, in each case, be the arithmetic means of the grades given by each of the two examiners. Each of these grades shall be given, unrounded, to one decimal place.

(10) Once the student's Master thesis has been graded, it shall be made available for viewing, provided the student consents, for a period of at least two years.

Section 25 Overall final grade

(1) The student's overall final grade for the degree course shall be calculated from the weighted arithmetic mean of all graded modules of the degree course as set out in Section 23 subsection 1, the grade awarded for the Master thesis, and the grade awarded for the colloquium. The weightings to be used appear in the column titled 'Weighting' in the tables of modules in Section 23 subsections 1 and 2. The overall final grade shall be given, unrounded, to one decimal place.

(2) The overall final grade for the successfully completed Master's degree examination shall be as follows:

up to (and including) 1.5	very good (<i>sehr gut</i>)
over 1.5 up to (and including) 2.5	good (<i>gut</i>)
over 2.5 up to (and including) 3.5	satisfactory (<i>befriedigend</i>)
over 3.5 up to (and including) 4.0	sufficient (<i>ausreichend</i>)

Where a student has achieved an overall final grade of 1.0 or 1.1, the wording 'with distinction' (*mit Auszeichnung*) may be added to the grade.

(3) Alongside the overall final grade, the student's Certificate of Examinations should contain a grade signifying the student's position according to the European Credit Transfer and Accumulation System (ECTS) grading scale (i.e. ECTS grade).

Part 3: Miscellaneous provisions; concluding provisions

Section 26 Additional modules

Students may choose to undergo examinations in modules beyond those required (additional modules). The grades attained in these additional modules shall not, however, be included in the student's overall final grade. The student's Certificate of Examinations shall contain the grades attained in a maximum of two examined/assessed additional modules; should the student have passed a higher number of additional modules than this, the modules in which they attained the best grades shall be included in their Certificate of Examinations. Where two or more additional modules were awarded the same grade, the modules to be included shall be selected at random. The student may request the inclusion of up to two different additional modules instead. The student's Transcript of Records shall include all additional modules taken.

Section 27 Invalidation of the Master's degree examination

(1) If it comes to light, after a student has been issued with their Certificate of Examinations for a Bachelor's or Master's degree course, that they have used unfair means (cheated) during an examination or formal assessment required for the completion of the Master's degree examination, the Examinations Committee shall have the power to re-grade the examination(s)/assessment(s) in question as 'unsuccessful' (5.0) or to re-designate the *Studienleistung* in question as 'unsuccessful'

(*nicht bestanden*), to correct the other grades which this grade affects, and to declare the [Master's degree] examination as partially or completely failed (*nicht bestanden*).

(2) If it is discovered, after the issuance of a student's Certificate of Examinations, that the student did not in fact meet the requirements for admission to the examination for the degree of Master of Science, but did not intend to mislead the relevant authorities in this matter, the student's successful completion of the Master's degree examination shall be considered to have redeemed the non-fulfilment of requirements.

(3) The incorrect Certificate of Examinations shall be withdrawn and the student shall be required to surrender it. Decisions pursuant to subsections 1 and 2 above must be taken no later than five years from the date of issue of the Certificate of Examinations in question.

Section 28 Students' right to view their examination records

Students shall have the right, upon application to the Chair of the Examinations Committee, to view their examination/assessment records, and in particular to examine their graded written examinations/assessments and the written records and assessments relating thereto, where these have not already been given to the student.

Section 29 Students' right of appeal

Students may lodge appeals against decisions related to examinations and assessments within one month of being notified of the decision provided they were informed at that time of their right of appeal (*Rechtsbehelfsbelehrung*); if they were not thus informed, they may lodge their appeal within one year of being notified of the decision. They shall direct their appeal to the Chair of the Examinations Committee. Students shall set out the grounds for their appeal, in written or electronic form. If the Examinations Committee rejects the appeal or a part thereof, it shall refer the appeal to the relevant Appeals Committee. The Appeals Committee at HAW Hamburg shall hear appeals relating to examinations and assessments taken at HAW Hamburg. Appeals relating to Master theses shall be heard by the Appeals Committee at HAW Hamburg where the first examiner is a member of HAW Hamburg. The currently valid version of the statutes (*Grundordnung*) of HAW Hamburg sets out further provisions relating to the appeals process before the Appeals Committee.

Section 30 Effective date; transitional provisions

(1) These Regulations shall enter into effect one day after the date of their publication in the HAW Hamburg official gazette (*Hochschulanzeiger*). They shall apply to all students commencing the Master of Science degree course in Microelectronic Systems from winter semester 2025/2026 onward.

(2) Students who commenced the degree course prior to winter semester 2025/2026 may continue/complete their studies under the aegis of the previous Regulations issued on 20 June 2019 (*Prüfungs- und Studienordnung der Hochschule für Angewandte Wissenschaften Hamburg (Hamburg University of Applied Sciences) für den gemeinsam mit der Fachhochschule Westküste Heide (FH Westküste) angebotenen Masterstudiengang Mikroelektronische Systeme vom 20. Juni 2019 (Hochschulanzeiger 143/2019, p. 59)*) up until the end of summer semester 2028. These Regulations, as referred to in subsection 1 above, shall come into effect immediately upon the conclusion of summer semester 2028, and shall govern the Master of Science degree course in Microelectronic Systems for all its students from that point onward.

Hamburg, 3 July 2024
Hochschule für Angewandte Wissenschaften Hamburg