Unofficial Translation

Excerpt from the

Examination Regulations for the Degree Program Master of Science (M.Sc.)

Appendix B. Program-specific provisions for the Examination Regulations for the Master of Science (M.Sc.)

Microsystems Engineering

§ 1 Program orientation

The Master in Microsystems Engineering degree program is consecutive and research-oriented.

§ 2 Admissions requirements

The admissions requirements and recognized academic qualifications are specified in the Admissions Regulations for the Master in Microsystems Engineering Degree Program.

§ 3 Program scope

The Master in Microsystems Engineering degree program comprises coursework equivalent to 120 ECTS credits. Every ECTS credit in Microsystems Engineering is equivalent to 30 hours of work load.

§ 4 Program entry

Students may only enter the Master in Microsystems Engineering degree program in the winter semester.

§ 5 Language

The courses are held in English.

§ 6 Mentors

Each student is assigned a professor as a mentor.

§ 7 Coursework

Each module may include coursework which the student must successfully complete in order to be admitted to the relevant module examination. Examples of such coursework are exercise sheets or graded reports. The type and scope of coursework are defined in the current module handbook and are announced to the students no later than at the beginning of the courses in each module.

§ 8 Course-based assessments

(1) Each module includes course-based written, oral, or practical assessments. The type and scope of course-based assessments are defined in the current module handbook and are announced to the students no later than at the beginning of the courses in each module.

(2) Written exams have a maximum duration of 30 minutes per ECTS credit. Oral exams have a maximum duration of 10 minutes per ECTS credit.

§ 8a Determination of module grades

(1) If the module includes partial module examinations, the module grade is calculated as follows:

a) Lecture and exercise course format: The course-based assessment counts for 2/3 and the exercise course for 1/3 of the module grade.

b) Lecture and laboratory course format: The course-based assessment counts for 2/3 and the laboratory course for 1/3 of the module grade.

(2) The grade for the "Master's Thesis" module is composed of the grades for the master's thesis itself (4/5) and for the presentation of the thesis (1/5).

§ 9 *(removed)*

§ 10 *(removed)*

§ 11 Admission to prepare the master's thesis

Admission to prepare the master's thesis is only open to students who have earned a minimum of 56 ECTS credits.

§ 12 Scope and presentation of the master's thesis

(1) The master's thesis must be completed within a period of no more than 12 months. The master's thesis and the presentation of findings are worth a total of 30 ECTS credits. The deadline cannot be extended.

(2) The master's thesis must be written in English or German.

(3) The master's thesis is presented in a final colloquium. Candidates are admitted to the final colloquium after submission of the master's thesis. The final colloquium is held in the presence of the thesis evaluators and is generally open to university members. The deliberations of the panel and the announcement of the results are not open to visitors.

(4) The master's thesis must be submitted in triplicate.

(5) The presentation of the master's thesis is graded according to the provisions described in § 18 of these examination regulations.

§ 13 Determination of the overall grade according to § 21 Paragraph (2) of the examination regulations

(1) The overall grade is calculated on the basis of the average (weighted arithmetic mean) of all module grades with a single weighting based on their specific ECTS credits in accordance with § 15 of these program-specific provisions.

(2) Students who receive the grade "very good" – 1.3 or better – on all module examinations are awarded the distinction "with honors."

§ 14 Repeating failed course-based assessments

Course-based assessments that have been graded "not adequate" (5.0) or considered failed may be repeated once. This does not include two course-based assessments, for which a second retake is permitted. The first exam retake must take place during the next possible examination session. The second exam retake must take place no later than the second possible examination session after the first retake.

§ 14a Repeating course-based assessments in order to improve grades

In no more than two modules, students may repeat module exams successfully completed within their first two semesters once in order to achieve a better grade. The original exam must have been taken by the end of the program semester specified in the curriculum. The exam with the best passing grade is

counted. Any exam retake for the purpose of improving a grade must take place during the next possible examination session.

§ 15 Program curriculum

(1) Students matriculated in the Master in Microsystems Engineering degree program must complete all modules in the required area "Advanced Microsystems Engineering."

Module	Semester	Type	Form of assessment	ECTS credits
Modules in the area "Advanced Microsystems Engineering"				61
Micromechanics	1	VÜ	written or oral	5
Microelectronics	1	VÜ	written or oral	5
MST Technologies and Processes	1	VÜ	written or oral	5
Micro-optics	1	VÜ	written or oral	5
Sensors	1	VP	written or oral	5
Assembly and Packaging Technology	2	VÜ	written or oral	5
Biomedical Microsystems	2	VÜ	written or oral	5
Dynamics of MEMS	2	VÜ	written or oral	5
Microactuators	2	VÜ	written or oral	5
Microfluidics	2	VÜ	written or oral	5
MST Design Laboratory				
MST Design Laboratory I	1	P	written or oral	3
MST Design Laboratory II	2	P	written or oral	3
Signal Processing	2	VÜ	written or oral	5

(2) Students must also complete the "Mathematics" and "Master's Thesis" modules.

Module	Semester	Type	Form of assessment	ECTS credit
Module in the area of "Mathematics"				
Probability and Statistics	1	VÜ	written or oral	5
"Master's Thesis" module				30
Master's Thesis	3–4		written or oral	30

(3) In the elective area "Microsystems Concentrations," students must select two subject areas from the list below. Concentrations modules I, II, and/or III must be taken in each of the selected subject areas for a total of at least 24 ECTS credits. ~~In addition~~ In each of the two selected subject areas concentrations modules worth a total of at least 9 ECTS credits must be taken. The type and scope of the courses within the subject areas and the type and scope of the course-based assessments and/or coursework necessary for completing them are described each academic year in the module handbook and are announced to the students no later than the beginning of the courses in that module.

Subject areas:
Circuits and Systems
Design and Simulation
Life Sciences: Biomedical Engineering
Life Sciences: Lab-on-a-Chip
Materials
MEMS Processing
Photonics
Sensors and Actuators
Personal Profile

Module	Semester	Type	Form of assessment	ECTS credits
"Microsystem Concentrations" elective modules				24
Circuits and Systems Concentrations – Module I	2–4	VÜPS	written or oral	3

Concentrations – Module II	2–4	VÜPS	written or oral	5
Concentrations – Module III	2–4	VÜPS	written or oral	6
Design and Simulation				
Concentrations – Module I	2–4	VÜPS	written or oral	3
Concentrations – Module II	2–4	VÜPS	written or oral	5
Concentrations – Module III	2–4	VÜPS	written or oral	6
Life Sciences: Biomedical Engineering				
Concentrations – Module I	2–4	VÜPS	written or oral	3
Concentrations – Module II	2–4	VÜPS	written or oral	5
Concentrations – Module III	2–4	VÜPS	written or oral	6
Life Sciences: Lab-on-a-Chip				
Concentrations – Module I	2–4	VÜPS	written or oral	3
Concentrations – Module II	2–4	VÜPS	written or oral	5
Concentrations – Module III	2–4	VÜPS	written or oral	6
Materials				
Concentrations – Module I	2–4	VÜPS	written or oral	3
Concentrations – Module II	2–4	VÜPS	written or oral	5
Concentrations – Module III	2–4	VÜPS	written or oral	6
MEMS Processing				
Concentrations – Module I	2–4	VÜPS	written or oral	3
Concentrations – Module II	2–4	VÜPS	written or oral	5
Concentrations – Module III	2–4	VÜPS	written or oral	6
Photonics				
Concentrations – Module I	2–4	VÜPS	written or oral	3
Concentrations – Module II	2–4	VÜPS	written or oral	5
Concentrations – Module III	2–4	VÜPS	written or oral	6
Sensors and Actuators				
Concentrations – Module I	2–4	VÜPS	written or oral	3
Concentrations – Module II	2–4	VÜPS	written or oral	5
Concentrations – Module III	2–4	VÜPS	written or oral	6
Personal Profile				
Concentrations – Module I	2–4	VÜPS	written or oral	3
Concentrations – Module II	2–4	VÜPS	written or oral	5
Concentrations – Module III	2–4	VÜPS	written or oral	6

Abbreviations used in the tables:
Semester = recommended program semester / Type = type of course
V = lecture / Ü = exercise / P = Laboratory course / S = seminar

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