

Program-specific examination and study regulations for the consecutive Master's degree program in Medical Technology and Healthcare Business (EMMAH) (M.Sc.) at the Hamburg University of Applied Sciences in cooperation with the Escola Superior de Tecnologia da Saúde do Porto (IPP) and the Université de Lille II - Faculté Ingénierie et Management de la Santé (ILIS)

from February 24, 2022

On February 24, 2022, the Presidential Board of the Hamburg University of Applied Sciences, in accordance with Section 108 (1) sentence 3 of the Hamburg Higher Education Act - HmbHG - of July 18, 2001

(HmbGVBl. p. 171), last amended on June 17, 2021 (HmbGVBl. p. 468), which was adopted on January 20, 2022 in accordance with Section 91 (2) no. 1 HmbHG by the Faculty Council of the Faculty of Life Sciences, at the proposal of the Departmental Council of Medical Technology on January 6, 2022 in accordance with Sections 16 (4) no. 2, 14 (3) no. 2 of the Basic Regulations of the Hamburg University of Applied Sciences in conjunction with Section 91 (2) no. 1 HmbHG.

§ 92 paragraph 1 sentence 2 no. 2 and paragraph 5 HmbHG "Program-specific examination and study regulations for the consecutive Master's degree program in Medical Technology and Healthcare Business (EMMAH) (M.Sc.) at the Hamburg University of Applied Sciences in cooperation with the Escola Superior de Tecnologia da Saúde do Porto (IPP) and the Université de Lille II - Faculté Ingénierie et Management de la Santé (ILIS)" in the following version.

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Preamble

The aim of the EMMaH Master's degree program is to provide students with a relevant Bachelor's degree with the special knowledge, skills and methods in the field of medical technology and management, taking into account the changes and requirements in the world of work, so that they are able to work scientifically, critically evaluate and integrate scientific findings and act responsibly. In order to achieve these goals, the EMMaH Master's degree program combines technical, clinical and health economics teaching and research at three partner universities. Students learn how to take an idea through to the product stage.

The course is internationally oriented and takes place at three universities in Hamburg, Porto and Lille, each of which has a different focus: HAW Hamburg focuses on engineering sciences, the Politécnico do Porto on clinical training and the Université de Lille on health economics.

I. Regulations on the overall concept of the EMMaH degree program

§ 1 General provisions

- (1) These examination and study regulations contain general provisions on the overall concept of the consecutive Master's degree program "Medical Technology and Healthcare Business (M.Sc.)" (EMMAH) and the specific regulations on the content and structure of the part of the course taking place at HAW Hamburg. It supplements the "General Examination and Study Regulations for Bachelor's and Master's Degree Programs in Engineering, Natural and Health Sciences and Computer Science at the Hamburg University of Applied Sciences (APSO-INGI)" in the currently valid version.
- (2) The degree program is offered in cooperation with the European universities
 - a) Politécnico do Porto (P.PORTO), Escola superior de saúde (ESS) - IPP for short
 - b) Université de Lille - Faculté Ingénierie et Management de la Santé - ILIS for short.

§ 2 Academic degree and value of the degree program

- (1) Together with the cooperating universities, the university awards the academic degree "Master of Science (M.Sc.)" at the end of the course. The Master's degree program is a joint degree program.
- (2) The academic degree is awarded when at least 120 ECTS credit points - CP - which have been acquired with the course content of this Master's degree program.

§ 3 Duration and structure of the degree program

- (1) The Master's degree program comprises 120 CP, the standard period of study is two years or four semesters. The fourth semester includes the Master's thesis with a scope of 30 CP.
- (2) One credit point corresponds to an average workload of 30 hours.
- (3) The course is offered by the Hamburg University of Applied Sciences in Germany, the Escola Superior de Saúde at the Politécnico do Porto in Portugal and the Faculté

Ingénierie et Management de la Santé at the Université de Lille in France. The allocation of modules to the participating universities is shown in the appendix.

(4) For the examinations and coursework to be completed at the partner universities in the 2nd and 3rd semester, including the Master's thesis module taken at the partner universities in the 4th semester, the legal provisions and procedural regulations applicable to the respective university apply.

(5) The module handbooks of the partner universities are published on the websites of the partner universities in the currently valid version.

(6) Students can replace modules from this degree program with a maximum of 15 CP with other modules from the courses offered in other Master's degree programs at the universities cooperating in this program. The substitute modules must each have at least the same number of CP as the modules to be replaced; credit can only be given for the CP of the module to be replaced. The "Master's Thesis and Colloquium" module cannot be replaced. The courses combined in a substitute module must contain at least one examination. The module grade of the substitute module is determined by the weighting of the examinations of the substitute courses according to CP or, if not stated in CP, according to SWS. Each substitution of a module requires the approval of the presiding member of the Examination Board after the approval of the academic advisor. A change of choice is only possible once and requires the consent of the subject advisor and the approval of the chairing member of the Examination Board. If all repetition options for examinations after § 23 APSO-INGI has been exhausted in the self-assembled module, a change to another module is no longer permitted.

(7) If students take additional modules at the universities cooperating in this program, these can be included in the certificate upon request. The grades of the additional modules are not included in the overall grade according to § 8.

II. Content and structure of the study part taking place at HAW Hamburg

§ 4 Study contents (§§ 8, 9, 10 APSO-INGI)

(1) The course content can be acquired in seminars, exercises and projects. Key qualifications are acquired as part of these courses and by writing a Master's thesis.

(2) The range of courses comprises 30 CP per semester. The modules of the study part taking place at HAW Hamburg (1st and 4th semester) are listed in the appendix. The current version of the module handbook published on the HAW Hamburg website in the section Regulations in Studies and Teaching applies.

§ 5 Language (§ 10 APSO-INGI)

Courses and examinations are held exclusively in English.

§ 6 Forms of examination (§ 14 APSO-INGI)

Repeat examinations should be offered as online examinations by means of an electronic remote data network in accordance with Section 14 (4) APSO-INGI.

§ 7 Master's thesis (§ 15 and § 16 APSO-INGI)

- (1) The processing time for the Master's thesis is 6 months.
- (2) The Master's thesis may not be started until at least 60 CP of the first three semesters have been completed.
- (3) 24 CP are awarded for the Master's thesis and 6 CP for the subsequent colloquium for the written preparation of the "Master's thesis and colloquium" module. The grading of the colloquium is weighted 6/30 and the grading of the Master's thesis 24/30 in the grading of the module "Master's Thesis and Colloquium".

§ 8 Scope and assessment of the Master's examination (§ 21 APSO-INGI)

The Master's examination comprises the examination results of the first three semesters and the "Master's thesis and colloquium" module. The overall grade is calculated as 25 percent of the grade for the "Master's thesis and colloquium" module and 75 percent of the average of the remaining module grades weighted by the CP of the respective modules.

§ 9 Recognition of services

- (1) For the recognition and crediting of achievements, the "Statutes for the Recognition and Crediting of Achievements - Recognition and Crediting Statutes - at the Hamburg University of Applied Sciences" apply in their currently valid version.
- (2) The recognition and crediting of achievements is carried out ex officio.

§ 10 Final certificate and certificate (§ 30 APSO-INGI)

- (1) If the examination according to § 30 paragraph 1 APSO-INGI is passed, the degree certificate will be issued for the award of the academic degree.
- (2) If the requirements under paragraph 1 are met, a certificate is issued. The certificate shall be signed by all partner universities involved.

§ 11 Entry into force, expiry

- (1) These regulations enter into force on the day after their publication in the University Gazette of the Hamburg University of Applied Sciences. They apply to all students commencing their studies from the winter semester 2022/23.
- (2) The course-specific examination and study regulations for the consecutive Master's degree course in Medical Technology and Healthcare Business (EMMAH) (M.Sc.) at the Hamburg University of Applied Sciences in cooperation with the Escola Superior de Tecnologia da Saúde do Porto (IPP) and the Université de Lille II - Faculté Ingénierie et Management de la Santé (ILIS) dated March 30, 2017 (Hochschulanzeiger Nr.123/2017, p. 12) still applies to all students who began their studies before the winter semester 2022/23. It will expire at the end of the summer semester 2026.
- (3) At the end of the summer semester 2026, the regulations referred to in paragraph 1 shall apply to all students of the consecutive Master's degree program in Medical Technology and Healthcare Business (EMMAH) (M.Sc.). It is not possible to change from the expiring course-specific examination and study regulations to the course-specific examination and study regulations mentioned in paragraph 1 until the end of the summer semester 2026.

Hamburg University of Applied Sciences Hamburg, February
24, 2022

This English version of the programme-specific examination and study regulations of the consecutive
consecutive Master's degree programme in Medical Technology and Healthcare Business (EMMAH)
have been automatically translated using DeepL and are for information purposes only.
The German version dated 30 March 2017 is officially valid

Appendix: Module tables

1. Semester: Modules at the Hamburg University of Applied Sciences

No.	Module	CP	Offer*	Course	LVA	SWS	PA	PF **	GrG
1	Project Seminar in Engineering	5	W	Project Seminar in Engineering	PJ	4	PL	H, (K, R, M, THP)	15
2	Health Technology Assessment /Regulatory Affairs	5	W	Regulatory Affairs	SeU	2	PL	M, (H, R, THP)	15
			W	Health Technology Assessment	SeU	2			15
3	Numerical Mathematics	5	W	Numerical Mathematics	SeU	4	PL	K, (H, R, M, PP, THP)	15
4	Simulation and Virtual Reality in Medicine	5	W	Simulation and Virtual Reality in Medicine	SeU	2	PL	PP (THP)	15
			W	Simulation and Virtual Reality in Medicine, Practical Work (SimLab)	Exercise	2			15
5	Advanced Control Systems	5	W	Advanced Control Systems Methods	SeU	2	PL	PP, (K, R, M, THP)	15
			W	Advanced Control Systems, Tools, Practical Work	SeU	2			
6	Modeling Medical Systems	5	W	Biomechanical modeling and validation	SeU	2	PL	H, (K, R, M, THP)	15
			W	Finite Element Analysis	SeU	2			
Total		30				24			

2. Semester: Modules at the Escola Superior de Tecnologia da Saúde do Porto

No.	Module	CP	Offer*	Course	LVA	SWS	PA	PF	GRG
1	Project Seminar in Health	5	S	Project Seminar in Health	PJ	4	PL	K, H, R, M	15
2	Medical Imaging Technologies and Devices	5	S	Medical Imaging Technologies and Devices	SeU	4	PL	K, H, R, M	15

No.	Module	CP	Offer*	Course	LVA	SWS	PA	PF	GRG
3	Medical Measurement Techniques	5	S	Medical Measurement Techniques	SeU	4	PL	K, H, R, M	15
4	Applied Clinical Imaging	5	S	Applied Clinical Imaging	SeU	4	PL	K, H, R, M	15
5	Applied Clinical Signals	5	S	Applied Clinical Signals	SeU	4	PL	H, K, R, M	15
6	Human-Technology Interaction on Clinical Environment	5	S	Human-Technology Interaction on Clinical Environment	SeU	4	PL	H, K, R, M	15
Total		30				24			

3. Semester: Modules at the Université de Lille II - Faculté Ingénierie et Management de la Santé, Lille

No.	Module	CP	Offer*	Course	LVA	SWS	PA	PF	GrG
1	Project Seminar in Healthcare Business	5	W	Project Seminar in Healthcare Business	PJ	4	PL	K, H, R, M	15
2	Principles of Marketing in the Healthcare Business	5	W	Principles of Marketing in the Healthcare Business	SeU	4	PL	K, H, R, M	15
3	International Healthcare Marketing and Business	5	W	International Healthcare Marketing and Business	SeU	4	PL	K, H, R, M	15
4	Marketing for Innovative Medical Technology	5	W	Marketing for Innovative Medical Technology	SeU	4	PL	K, H, R, M	15
5	Legal and regulatory considerations in the HealthCare Industry	5	W	Legal and regulatory considerations in the HealthCare Industry	SeU	4	PL	H, K, R, M	15

6	Industrial Purchasing, Outsourcing in the Healthcare Industry	5	W	Industrial Purchasing, Outsourcing in the Healthcare Industry	SeU	4	PL	H, K, R, M	15
	Total	30				24			

4. Semester: Modules at the Hamburg University of Applied Sciences

No.	Module	CP	Offer*	Course	LVA	SWS	PA	PF	GrG
1	Masterthesis and Colloquium	24	W/S	Master's thesis			PL	MT	1
		6	W/S	Colloquium			PL	KO	
	Total	30							

PF: Examination form

PA Exam type

LVA Course type GrG

Group size

SeU Seminar-based teaching Pj

Project

Exercise Exercise

CPCredit Point

SWS Semester hours per week

PL Examination (graded) K

Written exam

KO Colloquium

H Housework

R Unit

M Oral examination

PP Portfolio exam THP

Take-Home Exam

MT Master thesis

* Explanations for the "Offer" column: Courses are offered once per academic year, either in the winter or summer semester (W or S).

** Explanations for the column "PF" (examination forms): the examination form given in brackets is the regular examination form.