# Discipline-Specific Study and Examination Regulations for the Master's Program in Digital Health at the University of Potsdam

**Dated 13 December 2017**

The Faculty Council of the Digital Engineering Faculty of the University of Potsdam pursuant to §§ 19 para. 1, 22 para. 1-3, 31 in conjunction with § 72 para. 2 (1) of the Law Governing the Universities in Brandenburg (BbgHG) of 28 April 2014 (GVBl.I/14, [No. 18]), as last amended by Article 2 of the Law from 1 July 2015 (GVBl.I/15 [No. 18]) in conjunction with the regulation on the organization of examination regulations to ensure the equivalency of studies, examinations and degrees (HSPV) of 4 March 2015

(GVBl.II/15, [No. 12]) and with Art. 14 para. 1 No. 2 of the General Rules and Regulations of the University of Potsdam (GrundO) of 17 December 2009 (AmBek. UP No. 4/2010 p. 60) in the version of the third statute amending the General Rules and Regulations of the University of Potsdam (GrundO) of 21 May 2014 ((AmBek. UP No. 6/2015 p. 235) and § 1 para. 2 of the revised version of the general Study and Examination Regulations for the non-teaching Bachelor's and Master's programs of the University of Potsdam of 30 January 2013 (BAMA-O) (AmBek UP No. 3/2013, p. 35), as last amended by the statutes of 24 February 2016 (AmBek. UP Nr. 7/2016 p. 560), as last amended on 13 December 2017, the following study and examination regulation have been enacted as statutes:[1]

## Content

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[1] Approved by the President of the University of Potsdam, March 2018.

## § 1 Scope

(1) These regulations apply to the *Digital Health* Master's program of the Digital Engineering Faculty at the University of Potsdam. As discipline-specific regulations, they supplement the revised version of the general Study and Examination Regulations for the non-teaching Bachelor's and Master's programs of the University of Potsdam (BAMA-O).

(2) In the event of a conflict between these regulations and the BAMA-O, the provisions of the BAMA-O shall take precedence over these regulations.

## § 2 Degree

After acquiring the necessary credits and upon presentation of the graduation requirements, the University of Potsdam awards the degree of Master of Science (abbr. "M.Sc.") through the Digital Engineering Faculty.

## § 3 Goal of the Study Program and Professional Relevance

(1) The consecutive Master's program is a science- and research- based study program that imparts in-depth scientific fundamentals, advanced expertise and skills in the field of digital health, as well as specialized methodological skills and social and self-competence.

(2) Graduates of the Master's program possess a wide range of skills and knowledge in theories, concepts, methods, techniques and procedures for the analysis and interpretation, and design and implementation of complex digital systems, networked infrastructures and interoperable procedures for many domains of medicine, medical research and the healthcare sector, as well as related management and leadership responsibilities. Additionally, they acquire in-depth expert knowledge in the selected specialization areas in digital health. They are able to act responsibly in a team in the planning, executing, evaluating, and directing of the work involved and can effectively communicate the results obtained. They are able to select and apply appropriate solutions and strategies to ethical and legal issues.

Moreover, they are trained in the handling of confidential health data, the protection of privacy and the application of appropriate methods to protect personal and personally identifiable information. They possess strong communication skills in English as a foreign language and are thus able to interact professionally with experts from various fields of healthcare, health management and health research.

(3) The Master's program also provides students with the in-depth knowledge and skills necessary for scientific work, scientifically sound judgement, critical reflection of specialized knowledge and for responsible conduct in the field. Further key skills are provided in the areas of method competency and social and self-competency. In particular, graduates acquire key skills that are required for the analysis and conception of complex digital systems for digital health and their applications, as well as for the assessment of related ethical and legal issues.

(4) Graduates of the Master's program earn a further professional qualification. They are in a position to assume leadership and management positions, particularly where emphasis is placed on the analysis, interpretation, design and construction of complex digital systems, networked infrastructures and interoperable applications in healthcare, health management, and health research (e.g. as an IT/digital health expert in healthcare settings [hospitals, medical offices, government agencies, health insurance agencies, etc.] in health research and management, as an IT consultant in healthcare or as digital health development engineer, IT entrepreneur, etc.). They are also able to carry out independent research and development work, to set up companies with an IT focus or to achieve a subsequent qualification by entering the PhD program.

## § 4 Duration and Structure of the Study Program

(1) The Master's program in *Digital Health* is offered as a single disciple program at the University of Potsdam with 120 credit points. The standard study period of the Master's program is four semesters.

(2) The Master's program is divided into the following modules:

| | |
|---|---|
| Bridge Modules | 12 CPs |
| Compulsory Modules | 24 CPs |
| Compulsory Elective Modules (Specialization Area) | 36 CPs |
| Compulsory Elective Module (Soft Skills) | 6 CP |
| Digital Health Project Lab (Project) | 12 CP |
| Master's Thesis | 30 CP |
| **Total** | **120 CP** |

## § 5 Academic Coordination: Documentation of Performance

An office of Academic Coordination has been set up for this degree program at the Digital Engineering Faculty, which performs the tasks assigned by the BAMA-O student office.

## § 6    Modules of the Master's Program

(1) The Master's program in *Digital Health* is made up of the following components:

| Identifier | Title | CP |
|---|---|---|
| I Compulsory Modules (36 CP) | | |
| HPI-DH-HS | Health Systems and Sciences for Digital Health | 6 |
| HPI-DH-SW | Software Architectures for Digital Health | 6 |
| HPI-DH-EC | Ethics, Law and Compliance for Digital Health | 6 |
| HPI-DH-BP | Digital Health Business and Process Transformation | 6 |
| HPI-DH-PL | Digital Health Project Lab | 12 |
| II Compulsory Elective Modules | | |
| *1. Specialization Areas (36 CP)* | | |
| *A total of two areas of specialization are to be completed (3 x 6 CP each consisting of Concepts and Methods (C), Technologies and Tools (T) und Specialization (S)).* | | |
| **SCAD: Scalable Computing and Algorithms for Digital Health** | | |
| HPI-SCAD-C | SCAD – Concepts and Methods | 6 |
| HPI-SCAD-T | SCAD – Technologies and Tools | 6 |
| HPI-SCAD-S | SCAD – Specialization | 6 |
| **DICR: Digitalization of Clinical and Research Processes** | | |
| HPI-DICR-C | DICR – Concepts and Methods | 6 |
| HPI-DICR-T | DICR – Technologies and Tools | 6 |
| HPI-DICR-S | DICR – Specialization | 6 |
| **APAD: Acquisition, Processing and Analysis of Health Data** | | |
| HPI-APAD-C | APAD – Concepts and Methods | 6 |
| HPI-APAD-T | APAD – Technologies and Tools | 6 |
| HPI-APAD-S | APAD – Specialization | 6 |
| **HDAS: Health Data Security** | | |
| HPI-HDAS-C | HDAS – Concepts and Methods | 6 |
| HPI-HDAS-T | HDAS – Technologies and Tools | 6 |
| HPI-HDAS-S | HDAS – Specialization | 6 |

| *2. Additional Compulsory Elective Module (6 CP)* | | |
|---|---|---|
| *One module is to be chosen from the following HPI-SSK modules.* | | |
| HPI-SSK-CO | Communication Skills | 6 |
| HPI-SSK-MLE | Management and Leadership | 6 |
| HPI-SSKDTB | Design Thinking Basic | 6 |
| HPI-SSKDTA | Design Thinking Advanced | 6 |
| III Bridge Modules, or additional Compulsory Elective Modules (12 CP) | | |
| The Board of Examination may require students entering the master's program to take one or two of the following bridge modules (max. 12 CPs) (cf. Admission Regulations DH§ 5) to supplement missing skills, depending on the student's previous education. Particulars are determined by Admission Regulations. | | |
| HPI-DHBM-IT | Principles of IT Systems | 6 |
| HPI-DHBM-PR | Fundamentals of Programming | 6 |
| HPI-DHBM-PM | Introduction to Principles of Medicine | 6 |
| HPI-DHBM-HS | Fundamentals of Healthcare Systems | 6 |
| Insofar as the Board of Examinations has not expressed a specific obligation regarding the completion of bridge modules, the student must complete compulsory elective modules II. to the extent of up to 12 CP — depending upon the total number of bridge modules required for completion. Modules may not come from the chosen specialization areas. | | |
| | | |
| IV Master's Thesis (30 CP) | | |

(2) English is the language of instruction in the *Digital Health* Master's program.

(3) Further information on the modules named in para. 1 can be found in Appendix 1: Module Catalogue of this statute.

(4) A model study plan for these regulations is found in Appendix 2.

**§ 7      Master's Thesis**

(1) Once the student has earned 72 credit points, the student is entitled to the immediate assignment of a topic for the Master's thesis.

(2) The Master's thesis, including the defense, consists of 30 credit points.

**§ 8      Free Examination Attempts (″Freiversuche″)**

Students are allowed two free examination attempts in the Digital Health Master's program, with the exception of the *Digital Health Project Lab* module

**§ 9      Entry into Effect**

(1) These regulations take effect on the day following their publication in the Official Announcements of the University of Potsdam.

(2) These regulations apply to all students who are enrolled in the Master program in Digital Health at the University of Potsdam after their entry into effect.

**Appendix 1: Module Catalogue**

The descriptions in the § 6 para. 1, as well as those modules of the study program listed in the following tables, regulate the statutes for the module catalogue of the Digital Engineering Faculty for the Bachelor's and Master's degree programs at the University of Potsdam (MK DEF). Supplementary regulations or deviations from the regulations of the MK DEF are also specified in the following tables.

| Module ID | Module Title | CP | Type | Prerequisite |
|---|---|---|---|---|
| HPI-DHBM-IT | Principles of IT Systems | 6 | CM | none |
| HPI-DHBM-PR | Fundamentals of Programming | 6 | CM | none |
| HPI-DHBM-PM | Introduction to Principles in Medicine | 6 | CM | none |
| HPI-DHBM-HS | Fundamentals of Healthcare Systems | 6 | CM | none |
| HPI-DH-HS | Health Systems and Sciences for Digital Health | 6 | CM | none |
| HPI-DH-SW | Software Architectures for Digital Health | 6 | CM | none |
| HPI-DH-EC | Ethics, Law and Compliance for Digital Health | 6 | CM | none |
| HPI-DH-BP | Digital Health Business and Process Transformation | 6 | CM | none |
| HPI-DH-PL | Digital Health Project Lab | 12 | CM | none |
| HPI-SCAD-C | Scalable Computing and Algorithms for Digital Health – Concepts and Methods | 6 | CEM | none |
| HPI-SCAD-T | Scalable Computing and Algorithms for Digital Health – Technologies and Tools | 6 | CEM | none |
| HPI-SCAD-S | Scalable Computing and Algorithms for Digital Health – Specialization | 6 | CEM | Previous participation is recommended in HPI-SCAD-C or HPI-SCAD-T. |
| HPI-DICR-C | Digitalization of Clinical and Research Processes – Concepts and Methods | 6 | CEM | none |
| HPI-DICR-T | Digitalization of Clinical and Research Processes – Technologies and Tools | 6 | CEM | none |
| HPI-DICR-S | Digitalization of Clinical and Research Processes – Specialization | 6 | CEM | Previous participation is recommended in HPI-DICR-C or HPI-DICR-T. |
| HPI-APAD-C | Acquisition, Processing and Analysis of Health Data – Concepts and Methods | 6 | CEM | none |
| HPI-APAD-T | Acquisition, Processing and Analysis of Health Data – Technologies and Tools | 6 | CEM | none |
| HPI-APAD-S | Acquisition, Processing and Analysis of Health Data – Specialization | 6 | CEM | Previous participation is recommnded in HPI-APAD-C or HPI-APAD-T. |
| HPI-HDAS-C | Health Data Security – Concepts and Methods | 6 | CEM | none |
| HPI-HDAS-T | Health Data Security – Technologies and Tools | 6 | CEM | none |
| HPI-HDAS-S | Health Data Security – Specialization | 6 | CEM | Previous participation is recommended in HPI-HDAS-C or HPI-HDAS-T. |
| HPI-SSK-CO | Soft Skills: Communication Skills | 6 | CEM | none |
| HPI-SSK-MLE | Soft Skills: Management and Leadership | 6 | CEM | none |
| HPI-SSKDTB | Soft Skills: Design Thinking Basic | 6 | CEM | none |
| HPI-SSKDTA | Soft Skills: Design Thinking Advanced | 6 | CEM | none |

CP = Number of credit points, CM = Compulsory module, CEM = Compulsory elective module

**Appendix 2: Model Study Plans**

**a) Model study plan for the Master's program in Digital Health with an obligation to § 5 Admissions Regulations for DH**

| 1 Semester | | 2 Semester | 3 Semester | 4 Semester |
|---|---|---|---|---|
| HPI-DHBM-IT (6 CP) | HPI-DHBM-PM (6 CP) | HPI-VT1-C (6 CP) | HPI-DH-PL (12 CP) | HPI-MA (30 CP) |
| HPI-DHBM-PR (6 CP) | HPI-DHBM-HS (6 CP) | HPI-VT2-C (6 CP) | | |
| HPI-DH-HS (6 CP) | | HPI-VT1-T (6 CP) | HPI-VT1-S (6 CP) | |
| HPI-DH-SW (6 CP) | | HPI-VT2-T (6 CP) | HPI-VT2-S (6 CP) | |
| HPI-DH-BP (6 CP) | | HPI-DH-EC (6 CP) | HPI-SSK1 (6 CP) | |

**b) Model study plan for the Master's program in Digital Health without an obligation to § 5 Admissions Regulations DH**

| 1 Semester | 2 Semester | 3 Semester | 4 Semester |
|---|---|---|---|
| HPI- VT3-C (6 CP) | HPI-VT1-C (6 CP) | HPI-DH-PL (12 CP) | HPI-MA (30 CP) |
| HPI- VT3-T (6 LP) | HPI-VT2-C (6 CP) | | |
| HPI-DH-HS (6 CP) | HPI-VT1-T (6 CP) | HPI-VT1-S (6 CP) | |
| HPI-DH-SW (6 CP) | HPI-VT2-T (6 CP) | HPI-VT2-S (6 CP) | |
| HPI-DH-BP (6 CP) | HPI-DH-EC (6 CP) | HPI-SSK1 (6 CP) | |

Notes:
- The model study plans use the module abbreviation from § 6. In addition, HPI-VT1 indicates the first selected area of specialization and HPI-VT2 the second. For example, if the first specialization area is HPI-SCAD, HPI-VT1-C indicates the module HPI-SCAD-C.

- HPI-SSK1 indicates the chosen compulsory elective module from the area of Soft Skills.