Course Offer MASTER Digital Health WiSe 2021/2022
(Stand: 06.10.2021)

SWS = Semesterwochenstunden (semester hours per week)
TN =Teilnehmer (participants)
LV = Lehrveranstaltung (course)
SP = Stundenplan (time schedule)
LP = Leistungspunkte (Credit Points)

								Digital Health				Scalable Computing Algorithms for Digital Health			Digitalisation of Clinical Research Processes			Acquisition, Processing and Analysis of Health Data			Health Data Security			PSK				Bridge modulis				
												SCAD			DICR			APAD			HDAS											
								Health Systems and Science for Digital Health	Software Architecture for Digital Health	Ethics, Law and Compliance for Digital Health	Digital Health Business and Process Transformation	Artificial Intelligence for Digital Health	Concepts and Methods	Technologies and Tools	Specialisation	Concepts and Methods	Technologies and Tools	Specialisation	Concepts and Methods	Technologies and Tools	Specialisation	Concepts and Methods	Technologies and Tools	Specialisation	Communication Skills	Management and Leadership	Design Thinking Basic	Design Thinking Advanced	Principle of IT Systems	Fundamentals of Programming	Introduction to Principles in Medicine	Fundamentals of Healthcare Systems
		Format	Lecturers Supervisors	SWS	LP	max. TN	Teaching Languages	MA Digital Health Examination regulation 2018 & 2021													MA Digital Health 2018 & 2021											
1	Advanced Competitive Programming 2	L	Prof. Dr. Friedrich, Philipp Fischbeck	4	6	30	DE						6	6	6		6															
2	Adversarial self - Supervised learning with digital twins	PS	Prof. Dr. Holger Giese, Christian Adriano, He Xu	4	6		EN												6	6	6											
3	AI in Practice: Implementing Real-World Solutions	PS	Prof. Dr. Gerard de Melo, Dr. Frank Pawlitschek, Tolga Buz	4	6	16	DE									6	6	6	6	6	6											
4	Applied Probabilistic Machine Learning	L/E	Dr. Hugues Richard, Dr. Katharina Baum	4	6	30	EN												6	6	6											
5	Artifical Intelligence, ethics and engineering	PS	Dr. Holger Giese, Christian Adriano, Christian Zöllner	4	6		EN												6	6	6											
6	Biostatistics & Epidemiological data analysis using R	L/E	Dr. Stefan Konigorski	4	6	60	EN					6	6	6	6	6	6	6	6	6	6											
7	Combinatorial Optimization	L/E	Prof. Dr. Tobias Friedrich, Dr. Davis Issac, Dr. Nikhil Kumar	4	6		EN								6																	
8	Competitive Programming with Deep Learning 2	PS	Prof. Dr. Tobias Friedrich, Dr. Sarel Cohen, Vanja Doskoč	4	6	20	EN					6		6	6																	
9	Cyber Security Management	L/E	Prof. Dr. Christian Dörr	4	6		DE															6	6	6								
10	Cyber Threat Intelligence	L/E (Block)	Prof. Dr. Christian Dörr	4	6		EN															6	6	6								
11	Digital Health System and Data Interoperability	L/S	Prof. Dr. Sylvia Thun, Dr. Kai U Heitmann	4	6	30	EN		6																							
12	Expanding the Simulation of a million-dollar instrument - with deep learning from molecules to data	S	Dr. Katharina Baum, Dr. Sven Giese, Tom Altenburg	4	6	8	EN												6	6	6											
13	Fundamentals of Programming for Digital Health	L/P	Prof. Dr. Bert Arnrich	4	6		EN																					6				
14	Global Team-Based Innovation I	P/S	Prof. Falk Uebernickel	4	6		EN									6	6	6	6	6	6				6		6					
15	Global Team-Based Innovation III	S (Block)	Prof. Falk Uebernickel	2	3	10	EN			3															3		3					
16	Graph Neural Networks - Application ans link to graph queries	PS	Prof. Dr. Holger Giese, Christian Adriano, Matthias Barkowsky	4	6		EN												6	6	6											
17	Graph Algorithms	L/E	Prof. Dr. Tobias Friedrich, Dr. Pascal Lenzner, Dr. Katrin Casel	4	6		DE						6	6	6																	
18	HCI Project Seminar: Software Systems for Fabrication, VR, and Sustainability	PS	Prof. Patrick Baudisch	4	6		EN						6	6	6																	
19	Health and Disease Core Competencies	L/E	Prof. Dr. Erwin Böttinger, Jan-Phillip Sachs	4	6		EN																								6	
20	Healthcare Fundamentals and Digital Health Trends	L/E	Prof. Dr. Erwin Böttinger, Dr. Jasper zu Putlitz	4	6		EN																									6
21	Hot Topics in Secure Identity Research	S	Prof. Dr. Christoph Meinel, Eric Klieme, Alexander Mühle, Andreas Grüner, Daniel Köhler	4	6		EN															6	6	6								
22	Implementing information flow in complex networks	S	Dr. Katharina Baum, Pauline Hiort	4	6	8	EN												6	6	6											
23	Introduction to IT Systems	L/E	Prof. Dr. Ch. Meinel, Dr. Anne Kayem, Prof. Tilmann Rabl	4	6		EN																					6				
24	Cryptography	L/E	Prof. Dr. Anja Lehmann	4	6		DE															6	6	6								
25	Machine Intelligence with Deep Learning	S/P	Dr. Haojin Yang, Christian Bartz, Joseph Bethge, Hendrik Rätz	4	6	12	EN					6				6	6	6	6	6	6											
26	Mathematics for Machine Learning	L	Prof. Dr. Christoph Lippert	4	6		EN						6	6	6				6	6	6											
27	Modelling of Embedded Systems with Graph Transformations	PS	Prof. Dr. Holger Giese, Maria Maximova, Sven Schneider	4	6		DE												6	6	6											
28	Network Security in Practice	S/P	Dr. Feng Cheng, Pejman Najafi,	4	6	12	EN															6	6	6								
29	N-of-1 trials and other modern study designs	S	Dr. Stefan Konigorski	2	3	25	EN					3	3	3	3	3	3	3	3	3	3											
30	Privacy Preserving Outlier Detection	S/Ü	Dr. Anne Kayem	4	6		EN						6	6	6							6	6	6								
31	Process Analytics in Healthcare	S	Prof. Weidlich, Dorina Bano	4	6	12	EN				6					6	6	6														
32	Process Mining	L/E	Prof. Leopold	2	3		EN				3					3	3	3														
33	Python for Data Science in Digital Health	L/E	Prof. Dr. Christoph Lippert, Dr. Stephan Konigorski	2	3	35	EN					3	3	3	3				3	3	3											
34	Research Implementation of Database Concepts	P/S	Dr. Michael Perscheid, Jan Kossmann, Martin Boissier, Stefan Halfpap, Thomas Bodner, Marcel Weisgut	4	6	20	EN				6		6	6	6																	
35	old: Lecture Series on Practical Data Engineering new: Lecture Series on Database Research	V	Prof. Dr. Tilmann Rabl, Prof. Felix Naumann	2	3		EN						3	3	3				3	3	3											
36	Science - Introduction to Scientific Research	S	Dr. Timo Kötzing, Dr. Ralf Teusner	2	3		DE																		3							
37	Social Media Mining	S/P	Prof. Dr. Christoph Meinel, Raad BinTareaf, SeyedAli Alhosseini	4	6	12	EN												6	6	6											
38	Theoretical Foundations Cryptography	L/E	Prof. Dr. Tobias Friedrich, Dr. Andreas Göbel, Dr. Samuel Baguley	4	6		EN								6																	
39	Trends and Concepts in the Software Industry II	S (Block)	Prof. Dr. Hasso Plattner, Dr. Michael Perscheid	4	6		EN						6	6	6				6	6	6											
40	Accountability In AI	S	Prof. Dr. Andreas Polze, Kordian Gontarska, Marta Lemancyk, Weronika Wrazen, Felix Grzelka	2	3		EN																		3							
	Professional Skills																															
41	Academic Writing for Science	S	Sharon Nemeth	2	3	12	EN																		3							
42	Digital Entrepreneurship	S	Prof. Dr. Katharina Hölzle	4	6	15	EN																			6						
43	D-School Advanced Track application via D-School: www.hpi.de/d-school/application	P/S	Dr. Claudia Nicolai	6	9	40	EN																					9				
44	D-School Basic Track application via D-School: www.hpi.de/d-school/application	P/S	Dr. Claudia Nicolai	6	9	80	EN																				9					
45	Global Design Thinking Workshop	P/S	Dr. Claudia Nicolai, Renata Landa Lopez	2	3	40	EN																				3					
46	Conflict and Communication Management	S (Block)	Eva Bilstein	2	3	15	DE																		3	3						
47	Management Essentials	V	Prof. Dr. Eric Kearney	2	3	30	EN																			3						
48	Managing People, Managing Teams, and Leading Change	S (Block)	Ulf Schäfer	2	3	20	EN																			3						
49	Neurodesign Lecture - Designing for Empathy	L	Dr. Julia von Thienen, Irene-Sophia Plank	2	3		EN																		3		3					
50	Sonic Thinking - Methods of working with sound	S	Dr. Julia von Thienen	2	3		EN																		3		3					
51	Startups - From ideas to business	S	Dr. Frank Pawlitschek, Maximilian Mense	2	3	25	EN																			3						
52	Business Simulation Strategic Management	S (Block)	Prof. Dr. Braun, Robert Dabitz	2	3	20	DE																			3						
53	Wayfinder - Self and Leadership Development	P/S	Dr. Claudia Nicolai, Dr. Martin Schwemmle	2	3	18	EN																			3	3					
54	Ethics and Dilemmas in the Globalized World: Experiences from the SARS-CoV-2 pandemic	S	Dr. Barbara Buchberger	2	3	30																			3							
55	Leadership Skills - About the Hard Effects of Soft Skills	S (Block)	Michael Heidemann, Eugen Unger	2	3	24	DE																			3						
56	Leading Yourself and Others in a Virtual World	S (Block)	Karsten Drath	2	3	30	EN																			3						
57	Intrapersonal & interpersonal skills	S (Block)	Dr. Jana Leidenfrost	2	3	18	DE																		3							