Course Offer Master
Digital Health

(Status: 18.02.2022)

No.	Course titel	Type	Lecturers Supervisors	weekly hours per semester	CP	Participants (max.)	Language	Health Systems and Sciences for Digita Health	Software Architectures for Digital Health	Ethics, Law and Copliance for Digital Health	Data Science for Digital Health	Digital Health Project Lab	Concepts and Methods	Technologies and Tools	Specialization	Concepts and Methods	Technologies and Tools	Specialization	Concepts and Metods	Technologies and Tools	Specialization	Concepts and Methods	Technologies and Tools	Specialization	Communication Skills	Management and Leadership	Design Thinking Basic	Design Thinking Advanced	Principles of IT Systems	Fundamentals of Programming	Introduction to Principles in Medicine	Fundamentals of Healthcare Systems
								Digital Health					Scalable Computing Algorithms for Digital Health			Digita-lization of Clinical Research Processes			Acquisition, Processing and Analyis of Health Data			Health Data Security			PSK				Bridge moduls			
													SCAD			DICR			APAD			HDAS										
								MA Digital Health Prüfungsordnung 2021									MA Digital Health Prüfungsordnung 2021											MA Digital Health Prüfun				
1	21st Century Health Care Businesses: Regulatory, Legal, and Public Policy Aspects	S	Prof. Dr. Ariel Stern	2	3		EN			3																						
2	Advanced Competitive Programming	L	Prof. Dr. Tobias Friedrich	4	6	30	DE						6	6	6							6	6	6								
3	Advanced Cryptography	L/E	Prof. Dr. Anja Lehmann	4	6		DE															6	6	6								
4	Algorithms for Analysis and Visualization of High-Dimensional Data	S/P	Prof. Dr. Jürgen Döllner, Dr. Benjamin Hagedorn, Dr. Rico Richter	4	6		DE						6	6	6				6	6	6											
5	Application Security	L	Dr. Anne Kayem	4	6		EN															6	6	6								
6	Applied Machine Learning for Digital Health	S	Dr. Matthieu Schapranow	4	6		EN				6						6	6		6	6											
7	Approximation Algorithms	L	Prof. Dr. Tobias Friedrich, Dr. Davis Issac, Dr. Nikhil Kumar	4	6		EN						6	6	6																	
8	Business Process Intelligence	L	Prof. Dr. Mathias Weske	4	6								6	6	6	6	6	6														
9	Computational Statistics	L/E	Prof. Dr. Bernhard Renard, Dr. Christoph Schlaffner	4	6		EN						6	6	6				6	6	6											
10	Cryptography and Society	S	Prof. Dr. Anja Lehmann	2	3	20	EN															3	3	3								
11	Deep Learning	L/E	Prof. Dr. Christoph Lippert	4	6		EN				6		6	6	6				6	6	6											
12	*Digital Health Design Lab - in coordination -*	*S*	*Dr. Jonathan A. Edelman - in coordination -*	*4*	*6*		*EN*						*6*	*6*	*6*	*6*	*6*	*6*	*6*	*6*	*6*											
13	Dynamic Programming and Reinforcement Learning	L/E	Dr. Rainer Schlosser, Alexander Kastius	4	6		EN						6	6	6	6	6	6														
14	Ethical Issues for Digital Health	L/S	Dr. Alina Omerbasic-Schiliro	2	3	29	EN			3																						
15	Future Internet	L	Prof. Dr. Holger Karl	4	6		tbd						6	6	6																	
16	Global Team-Based Innovation II	P/S	Prof. Dr. Falk Uebernickel	4	6	15	EN									6	6	6	6	6	6				6	6						
17	Hardware Conscious Data Processing	L	Prof. Dr. Tilmann Rabl	4	6		EN						6	6	6																	
18	HCI Project Seminar: Software systems for Virtual Reality and Fabrication	S	Prof. Dr. Patrick Baudisch	4	6		EN						6	6	6																	
19	Image & Video Processing - Concepts and Techniques	L/E	Dr. Matthias Trapp, Max Reimann, Sumit Shekhar	4	6		DE						6	6	6				6	6	6											
20	Information Integration	L	Prof. Dr. Felix Naumann	4	6		DE												6	6	6											
21	Managing and Researching Healthcare Systems	L	Prof. Dr. Reinhard Busse, Dr. Wilm Quentin	4	6		EN	6																								
22	Research Methods	S	Prof. Dr. Felix Naumann	2	3	6	DE																		3							
23	Mishaps in Statistics and ML	S	Prof. Dr. Bernhard Renard, Dr. Katharina Baum	2	3	6	EN						3	3	3				3	3	3											
24	Multi-Agent Reinforcement Learning on Self-Adaptive Systems	PS	Prof. Dr. Holger Giese, Christian Adriano, He Xu	4	6		EN				6		6	6	6																	
25	Natural Language Processing	L/E	Prof. Dr. Gerard de Melo	4	6	40	EN				6					6	6	6	6	6	6											
26	Networking and Machine Learning	S	Prof. Dr. Holger Karl	4	6		EN						6	6	6																	
27	Network Security	L	Prof. Dr. Christian Dörr	4	6		DE															6	6	6								
28	Neuro-Symbolic Methods for Machine Learning-Based Systems	PS	Prof. Dr. Holger Giese, Christian Adriano, Mustafa Ghani	4	6		EN						6	6	6																	
29	Parameterized Algorithms	L/E	Dr. Katrin Casel	4	6		EN						6	6	6																	
30	Password-based Authentication: Attacks & Defenses	S	Prof. Dr. Anja Lehmann, Dennis Dayanikli	2	3	10	EN															3	3	3								
31	Personalized Medicine	L	Prof. Dr. Erwin Böttinger et al.	4	6		EN									6	6	6	6	6	6											
32	Practical Applications of Deep Learning	S	Dr. Haojin Yang, Christian Bartz, Ting Hu, Joseph Bethge, Goncalo Mordido, Ziyun Li	4	6		EN				6		6	6	6				6	6	6											
33	Quantum-Safe Cryptography	L	Prof. Dr. Anja Lehmann, Dr. Gregor Seiler	2	3		EN															3	3	3								
34	State-of-the-Art Visual Media Analysis and Processing	S/P	Dr. Matthias Trapp, Max Reimann, Sumit Shekhar	4	6		DE						6	6	6				6	6	6											
35	Statistics in Connected Healthcare	L/E	Prof. Dr. Bert Arnrich	4	6		EN						6	6	6	6	6	6	6	6	6											
36	Trends and Concepts in the Software Industry I	L	Prof. Dr. Hasso Plattner, Dr. Michael Perscheid, Stefan Halfpap, Werner Sinzig, Lukas Böhme, Tobias Wuttke, Ralf Teusner	4	6		EN						6	6	6				6	6	6											
37	Understanding Your Genome – An Introduction to Human Genome Analysis and Interpretation	S	Dr. Henrike Heyne	4	6		EN						6	6	6	6	6	6	6	6	6											
38	Usable Security and Privacy	S	Prof. Dr. Christoph Meinel, Dr. Anne Kayem	4	6		EN															6	6	6								
	Professional Skills - LV																															
39	Academic Writing for Science	S	Dr. Sharon Nemeth	2	3	15	EN																		3							
40	Advanced Track Desgin Thinking (D-School) Bewerbung bei der D-School: www.hpi.de/d-school/application	P/S	Dr. Claudia Nicolai	6	9	30	EN																					9				
41	Basic Track Design Thinking (D-School) Bewerbung bei der D-School: www.hpi.de/d-school/application	P/S	Dr. Claudia Nicolai	6	9	80	EN																				9					
42	Dealing with uncertainty	S (Block)	Christoph Burger	2	3	30	EN																		3	3						
43	Ethical Issues in Digital Health	L	Dr. Alina Omerbasic-Schiliro	2	3	29	EN			3																						
44	Leadership Skills	S (Block)	Michael Heidemann, Eugen Unger	4	6	30	DE																			6						
45	Global Design Thinking-Workshop: Global Design Thinking Challenge (D-School)	P/S	Dr. Claudia Nicolai	2	3	40	EN																				3					
46	Interpersonal conflicts, conflict and negotiation management	S (Block)	Prof. Dr. Dorothea Schulz	2	3	15	DE																		3							
47	Conflict and Communication Management	S (Block)	Eva Bilstein	2	3	15	DE																		3	3						
48	Management & Leadership: "Moments of truth"	S	Dr. Jana Leidenfrost	2	3	25	DE																			3						
49	Management Essentials	L	Prof. Dr. Eric Kearney	2	3	25	EN																			3						
50	Product Builder	S	Dr. Frank Pawlitschek, David Hahn	4	6	25	EN																			6						
51	Sonic Thinking Lecture - Methods of Working with Sound	L	Dr. Julia von Thienen	2	3		EN																		3			3				
52	Sonic Thinking Seminar - Methods of Working with Sound	S	Dr. Julia von Thienen	2	3		EN																		3			3				
53	Wayfinder: Self- and Leadership Development (D-School)	P/S	Dr. Martin Schwemmle, Dr. Claudia Nicolai	2	3	18	EN																			3		3				