

MASTER'S PROGRAMME IN BIOMEDICAL ENGINEERING / BME (joint structure for national and international master's programmes)

2020-2022

Code and link to the course description in Oodi	Course name and ECST Credits	Preferred timing								
		1. academic year 2020-2021					2. academic year 2021-2022			
		autumn 2020		spring 2021		Summer 2021	autumn 2021		spring 2022	
		1P	2P	3P	4P	5p	1P	2P	3P	4P
	BME Common Compulsory Studies 70-72 ECTS Credits									
521242A	Introduction to Biomedical Engineering, 5 ECTS cr	5					0			
521149S	An Introduction to Computer Vision Methods for Biomedical Images, 5 ECTS cr	5					0			
521467A	OR alternatively for Finnish students: Digital Image Processing, 5 ECTS cr				5				0	
900017Y	Survival Finnish Course (for non-Finnish students only), 2 ECTS cr	2					0			
521273S	Biosignal Processing I, 5 ECTS cr		5					0		
041201A	Basics in eHealth, 5 ECTS cr			5					0	
080925A	Anatomy and Physiology for Biomedical Engineering, 5 ECTS cr						5			
521027S	Advanced Practical Training (ITEE) OR					5				
580121S	Practical Training (FMED), 5 ECTS cr									
521284S	Biomedical Engineering Project (ITEE) OR					0	5	0		
580202S	Biomedical Engineering Project (FMED), 5-10 ECTS cr									
080928S	Biomedical Engineering Research Methods and Seminar, 5 ECTS Credits						3	2		
522987S	Master's Thesis in Biomedical Engineering (ITEE) OR							10	10	
580213S	Master's Thesis in Biomedical Engineering (FMED), 30 ECTS cr								10	
521009S	Computer Science and Engineering, The Maturity Test for Master's Degree								0	
580211S	(ITEE) OR Maturity Test (FMED), 0 ECTS cr									
	BME Compulsory Studies of selected specialization 25 ECTS cr									
	Compulsory Studies of selected specialization for ITEE BME (Signal and Image Processing) 25 ECTS cr									
521149S	Function and Analysis of Cardiovascular System, 5 ECTS cr		5					0		
521289S	Machine Learning, 5 ECTS cr			5					0	
521466S	Machine Vision, 5 ECTS cr			5					0	
521282S	Biosignal Processing II, 5 ECTS cr				5				0	
521285S	Affective Computing, 5 ECTS cr	0					5			

	Compulsory Studies of selected specialization option I for FMED BME (Biomechanics and Imaging) 25 ECTS cr									
080915S	Tissue Biomechanics, 5 ECTS cr		5					0		
080920S	Diagnostic Imaging, 5 ECTS cr		5					0		
080924S	Biomaterials, 5 ECTS cr			5					0	
080916S	Biomechanics of Human Movement, 5 ECTS cr				5					0
080922S	Microscopy and Spectroscopic Imaging, 5 ECTS cr			5						
	Compulsory Studies of selected specialization option II for FMED BME (Health Technology) 25 ECTS cr									
080929S	Health Technology and Multimodal Monitoring, 5 ECTS cr			5					0	
521097S	Wireless Measurements, 5 ECTS cr			5					0	
521093S	Biomedical Instrumentation, 5 ECTS cr				5					0
080916S	Biomechanics of Human Movement, 5 ECTS cr				5					0
080927S	Connected Health and mHealth, 5 ECTS cr	0					5			
	Recommended Optional Studies 23-25 ECTS cr									
	Recommended Optional Studies for ITEE BME with specialization in Signal and Image Processing 23-25 ECTS cr									
521156S	Towards Data Mining, 5 ECTS cr	0						0		
031025A	Introduction to Optimization, 5 ECTS cr		0						0	
521348S	Statistical Signal Processing, 5 ECTS cr	0						0		
521153S	Deep Learning, 5 ECTS cr		0						0	
521279S	Signal Processing Systems, 5 ECTS cr		0						0	
521161S	Multi-Modal Data Fusion, 5 ECTS cr		0						0	
080920S	Diagnostic Imaging, 5 ECTS cr		0						0	
521495A	Artificial Intelligence, 5 ECTS cr			0						0
521288S	Multiprocessor Programming, 5 ECTS cr			0	0					0
521093S	Biomedical Instrumentation, 5 ECTS cr				0					0
080926A	Introduction to Biomedical Imaging Methods, 1-3 ECTS cr				0					0
521140S	Computer Graphics, 5 ECTS cr				0					0
521283S	Big Data Processing and Applications, 5 ECTS cr				0					0

	Recommended Optional Studies for FMED BME with specialization in Biomechanics and Imaging 23-25 ECTS cr									
521156S	Towards Data Mining, 5 ECTS cr	0					0			
761652S	NMR Imaging, 10 ECTS cr						0	0		
521240S	Biophotonics and Biomedical Optics, 5 ECTS cr		0					0		
521153S	Deep Learning, 5 ECTS cr		0					0		
080921S	Biomedical Ultrasound, 5 ECTS cr			0					0	
521289S	Machine Learning, 5 ECTS cr			0					0	
521466S	Machine Vision, 5 ECTS cr			0					0	
521495A	Artificial Intelligence, 5 ECTS cr			0					0	
521093S	Biomedical Instrumentation, 5 ECTS cr				0					0
080926A	Introduction to Biomedical Imaging Methods, 1-3 ECTS cr				0					0
080923S	Physics in Radiation Therapy, 5 ECTS cr				0					
080917S	Project in Biomedical Technology OR			0	0	0	0	0	0	0
080918S	Project in Medical Imaging, 5-10 ECTS cr									
	Recommended Optional Studies for FMED BME with specialization in Health Technology 23-25 ECTS cr									
521156S	Towards Data Mining, 5 ECTS cr	0					0			
464104A	Product Innovations, 5 ECTS cr	0					0			
080915S	Tissue Biomechanics, 5 ECTS cr		0					0		
521124S	Sensors and Measuring Techniques, 5 ECTS cr		0					0		
521240S	Biophotonics and Biomedical Optics, 5 ECTS cr		0					0		
521337A	Digital Filters, 5 ECTS cr			0					0	
521289S	Machine Learning, 5 ECTS cr			0					0	
521495A	Artificial Intelligence, 5 ECTS cr			0					0	
521092A	Electronic Measurement Techniques, 5 ECTS cr				0					0
521282S	Biosignal Processing II, 5 ECTS cr				0					0
521283S	Big Data Processing and Applications, 5 ECTS cr				0					0
080919S	Project in Health Technology, 5-10 ECTS cr			0	0	0	0	0	0	0