

Biomedical Engineering, Master of Science (Technology), Faculty of ITEE, or Biomedical Engineering, Master of Health Science, Faculty of Medicine, 120 ECTS Credits 2 years

Study Structure 2019-21

Period	Code	Course Name	ECTS	1st autumn		1st spring		summer	2nd autumn		2nd spring	
				1	2	3	4		1	2	3	4
Biomedical Engineering Common Compulsory Studies 70-72 ECTS cr												
	521242A	Introduction to Biomedical Engineering	5	5					0			
	521149S	An Introduction to Computer Vision Methods for Biomedical Images OR	5	5					0			
	521467A	Digital Image Processing (<u>for Finnish students only</u>)					5					0
	900017Y	Survival Finnish Course (<u>for non-Finnish students only</u>)	2	2					0			
	521273S	Biosignal Processing I	5		5					0		
	041201A	Basics in eHealth	5			5					0	
	080925A	Anatomy and Physiology for Biomedical Engineering	5				5					0
	521027S 580121S	Advanced Practical Training (ITEE) OR Practical Training (FMED)	5					5				
	521284S 580202S	Biomedical Engineering Project (ITEE) OR Biomedical Engineering Project (FMED)	5-10						0	5	0	
	080928S	Biomedical Engineering Research Methods and Seminar	5						3	2		
	522987S 580213S	Master's Thesis in Biomedical Engineering (ITEE) OR Master's Thesis in Biomedical Engineering (FMED)	30							10	10	10
	521009S 580211S	Computer Science and Engineering, The Maturity Test for Master's Degree (ITEE) OR Maturity Test (FMED)	0									0
Compulsory Studies ITEE BME (Signal and Image Processing) 25 ECTS cr												
	521149S	Function and Analysis of Cardiovascular System	5		5					0		
	521289S	Machine Learning	5			5					0	
	521466S	Machine Vision	5			5					0	
	521282S	Biosignal Processing II	5				5					0
	521285S	Affective Computing	5	0					5			

			1st autumn		1st spring					2nd autumn		2nd spring	
Period			1	2	3	4	summer	1	2	3	4		
Code	Course Name	ECTS											
Compulsory Studies FMED BME (Biomechanics and Imaging) 25 ECTS cr													
080915S	Tissue Biomechanics	5		5						0			
080920S	Diagnostic Imaging	5		5						0			
080921S	Biomedical Ultrasound	5									5		
080916S	Biomechanics of Human Movement	5				5							0
080922S	Microscopy and Spectroscopic Imaging	5									5		
Compulsory Studies FMED BME (Health Technology) 25 ECTS cr													
080929S	Health Technology and Multimodal Monitoring	5			5						0		
521097S	Wireless Measurements	5			0						5		
521093S	Biomedical Instrumentation	5			5						0		
080916S	Biomechanics of Human Movement	5				5							0
080927S	Connected Health and mHealth	5	0						5				
Recommended Optional Studies 23-25 ECTS cr, see separate section below													
Compulsory Studies in total			12	5	10	10	5	8	12	10	10	10	10
Optional Studies in total			3	10	5	5	5	7	3	5	0	0	0
ECTS Credits/Period			15	15	15	15	5	15	15	15	15	10	10
ECTS Credits/Semester			30		30		5	30		25			
ECTS Credits/Academic year			60				5	55					
Degree (120 credits)			120										

Master's Programme in Biomedical Engineering Recommended Optional Studies 2019-2021

Period	Code	Course Name	ECTS	1st autumn		1st spring		summer	2nd autumn		2nd spring	
				1	2	3	4		1	2	3	4
Recommended Optional Studies ITEE BME (Signal and Image Processing) 23-25 ECTS cr												
	521156S	Towards Data Mining	5	0					0			
	031025A	Introduction to Optimization	5	0					0			
	521348S	Statistical Signal Processing	5	0					0			
	521153S	Deep Learning	5		0					0		
	521279S	Signal Processing Systems	5		0					0		
	521161S	Multi-Modal Data Fusion	5		0					0		
	080920S	Diagnostic Imaging	5		0					0		
	521495A	Artificial Intelligence	5			0					0	
	521288S	Multiprocessor Programming	5			0	0				0	0
	521093S	Biomedical Instrumentation	5			0					0	
	080926A	Introduction to Biomedical Imaging Methods	1-3				0					0
	521493S	Computer Graphics	5				0					0
	521283S	Big Data Processing and Applications	5				0					0
Recommended Optional Studies FMED BME (Biomechanics and Imaging) 23-25 ECTS cr												
	521156S	Towards Data Mining	5	0					0			
	761652S	NMR Imaging	10	0	0							
	521240S	Biophotonics and Biomedical Optics	5		0					0		
	521153S	Deep Learning	5		0					0		
	080924S	Biomaterials	2-5			0						
	521289S	Machine Learning	5			0					0	
	521466S	Machine Vision	5			0					0	
	521495A	Artificial Intelligence	5			0					0	
	521093S	Biomedical Instrumentation	5			0					0	
	080926A	Introduction to Biomedical Imaging Methods	1-3				0					0
	080923S	Physics in Radiation Therapy	5									0
	080917S 080918S	Project in Biomedical Technology OR Project in Medical Imaging	5-10			0	0	0	0	0	0	0

			1st autumn		1st spring			2nd autumn		2nd spring	
Period			1	2	3	4	summer	1	2	3	4
Code	Course Name	ECTS									
Recommended Optional Studies FMED BME (Health Technology) 23-25 ECTS cr											
521156S	Towards Data Mining	5	0					0			
464104A	Product Innovations	5	0					0			
080915S	Tissue Biomechanics	5		0					0		
521124S	Sensors and Measuring Techniques	5		0					0		
521240S	Biophotonics and Biomedical Optics	5		0					0		
521337A	Digital Filters	5			0						0
521289S	Machine Learning	5			0						0
521495A	Artificial Intelligence	5			0						0
521092A	Electronic Measurement Techniques	5				0					0
521282S	Biosignal Processing II	5				0					0
521283S	Big Data Processing and Applications	5				0					0
080919S	Project in Health Technology	5-10			0	0	0	0	0	0	0