

Appendix 1 of the Examination Regulations

Module Nr.	Module Name	Course Name	Type of Course	Semester	Performance		Prerequisites	SWS	ECTS (LP)
					Examination Performance	Study Performance			
Compulsory Module for Group I: Students with a Bachelor's degree in the areas of electrical engineering, information technology, mechanical engineering, physics, process engineering, material science or an equivalent.									
1.1	Medicine							8	8
		Anatomy and Physiology	Lecture	1	MP-K (90 Min.)			4	4
		Medical Microbiology and Hygiene	Project	1	MP-PF		**	4	4
1.2	Natural Science							4	6
		Biomechanics	Lecture	1	MP-K (90 Min.)			2	3
		Biophysics	Lecture	1	MP-K (90 Min.)			2	3
1.3	Medical Technology							6	8
		Medical Technology	Lecture	1	MP-K (90 Min.)			4	5
		Medical Technology-Lab.	Practical	1		Tb	**	2	3
1.4	System Theory							5	8
		Signals and Systems in Medical Imaging	Lecture	1	MP-M (20 Min.)			2	3
		Signals and Systems in Medical Imaging - Lab.	Practical	1		Tb		1	2
		Numerical Methods in Medicine	Lecture	1	MP-K (90 Min.)			2	3
Compulsory Module for Group II: Students with a Bachelor's degree in the areas of biomedical engineering, medical technology or an equivalent.									
1.5	Signal Processing							4	6
		Signal Processing	Lecture	1	MP-M (20 Min.)			2	3
		Signal Processing - Lab.	Practical	1		Tb	**	2	3
1.6	Electronics and Optics							8	8
		Medical Electronics	Lecture	1	MP-K (90 Min.)			2	3
		Medical Electronics-Project	Project	1		Tb	**	4	2

		Photonics I	Lecture	1	MP-K (90 Min.)			2	3
1.7	Design Engineering							8	8
		Design Methodology	Lecture	1	MP-M (20 Min.)			2	3
		Design Methodology - Project	Project	1		Tb	**	2	1
		Materials Science	Lecture	1	MP-PF			4	4
1.8	System Theory							5	8
		Signals and Systems in Medical Imaging	Lecture	1	MP-M (20 Min.)			2	3
		Signals and Systems in Medical Imaging - Lab.	Practical	1		Tb		1	2
		Numerical Methods in Medicine	Lecture	1	MP-K (90 Min.)			2	3
Compulsory Modules for all Students									
2.1	Clinical Application							4	4
		Clinical Application of Medical Technology - Project	Project	2	MP-K (90 Min.)			4	4
2.2	Imaging							6	10
		Imaging	Lecture	2	MP-K (90 Min.)			2	4
		Image Processing	Lecture	2	MP-K (90 Min.)			2	4
		Numerical Methods in Medicine - Lab.	Practical	2		Tb		2	2
2.3	Management							5	6
		Regulatory Affairs	Lecture	2	MP-K (90 Min.)			2	3
		Scientific Writing	Practical	2		Tb	**	1	1
		Module from the Catalogue of Compulsory Elective Modules "Management"		2				2	2
Compulsory Elective Modules "Management"									
2M1	Health Technology Assessment							2	2
		Health Technology Assessment	Lecture	2	MP-K (90 Min.)			2	2

2M2	Innovation Management and Marketing							2	2
		Innovation Management and Marketing	Lecture	2	MP-K (90 Min.)			2	2
2M3	Quality Management in Healthcare							2	2
		Quality Management in Healthcare	Project	2	MP-PF		**	2	2
2M4	Successful Negotiation and Communication							2	2
		Successful Negotiation and Communication	Lecture	2	MP-PF			2	2
Compulsory Elective Modules									
2W1	Design of Medical Electronic Devices							4	5
		Design of Medical Electronic Devices	Project	2	MP-PF		**	4	5
2W2	Computer Aided Techniques in Design							4	5
		Computer Aided Techniques in Design	Project	2	MP-PF		**	4	5
2W3	Biophysics – Laboratory							2	3
		Biophysics – Laboratory	Project	2	MP-PF		**	2	3
2W4	Human Biochemistry/ Medical Biotechnology							4	5
		Human Biochemistry/ Medical Biotechnology	Project	2	MP-PF		**	4	5
2W5	Medical Technology - Selected Topic							4	5
		Medical Technology - Selected Topic	Project	2	MP-PF		**	4	5
2W6	Computer Vision							2	3
		Computer Vision	Lecture	2	MP-M (20 Min.)			2	3

2W7	Photonics II and Laser Applications							4	5
		Photonics II and Laser Applications	Project	2	MP-PF		**	4	5
2W8	Medical Robotics							2	3
		Medical Robotics	Lecture	2	MP-M (20 Min.)			2	3
2W9	Specialized Biomechanics							2	3
		Specialized Biomechanics	Project	2	MP-PF		**	2	3
2W10	Artificial Intelligence***							2	3
		Artificial Intelligence	Lecture	2	MP-M (20 Min.)			2	3
2W11	Anaesthesia and Artificial Respiration							4	5
		Anaesthesia and Artificial Respiration	Project	2	MP-K (90 Min.)		**	4	5
Conclusion of Studies									
3A1	Research Internship								25
		Research Internship	Practical	3		Tu			20
		Student Conference	Seminar	3		Tu	**		5
4A2	Closure								32
		Thesis		4					30
		Final Colloquium		4	MP-M (60 Min.)				2

LP: Credit Point

MP-K: Written Module Exam

MP-M: Oral Module Exam

MP-PF: Portfolio Module Exam

MP-PA: Project Report Module Exam

Tb: Graded Test (Study Performance)

Tu: Ungraded Test (Study Performance)

**** In accordance with §7 SPO the course has compulsory attendance**

***** Module is only offered in the Winter Semester**