

Module: Medical Technology

Level	Master	Short Name	CTME
Responsible Lecturers	Müller, Stefan , Prof. Dr.-Ing.		
Department, Facility	Mechanical Engineering and Business Administration		
Course of Studies	Mechanical Engineering, Master		
Compulsory/elective	Elective	ECTS Credit Points	5
Semester of Studies	1	Semester Hours per Week	4
Length (semesters)	1	Workload (hours)	150
Frequency	WiSe	Presence Hours	60
Teaching Language	English	Self-Study Hours	90

The following section is filled only if there is **exactly one** module-concluding exam.

Exam Type	Written Exam	Exam Language	English
Exam Length (minutes)	90	Exam Grading System	One-third Grades
Learning Outcomes	Students are able to analyze and describe the function of the most important medical devices.		
Participation Prerequisites			

The previous section is filled only if there is **exactly one** module-concluding exam.

Consideration of Gender and Diversity Issues	<ul style="list-style-type: none"> ✓ Use of gender-neutral language (THL standard) ✗ Target group specific adjustment of didactic methods ✗ Making subject diversity visible (female researchers, cultures etc.)
Applicability	
Remarks	

Module Course: Medical Technology (Lecture)

(of Module: Medical Technology)

Course Type	Lecture	Form of Learning	Presence
Mandatory Attendance	no	ECTS Credit Points	5
Participation Limit		Semester Hours per Week	4
Group Size		Workload (hours)	150
Teaching Language	English	Presence Hours	60
Study Achievements ("Studienleistung", SL)		Self-Study Hours	90
SL Length (minutes)		SL Grading System	

The following section is filled only if there is a course-specific exam.

Exam Type		Exam Language	
Exam Length (minutes)		Exam Grading System	
Learning Outcomes			
Participation Prerequisites			

The previous section is filled only if there is a course-specific exam.

Contents	<ul style="list-style-type: none"> • Medical Terminology, major organ systems, generation of bioelectrical potentials • Measurement of flow, flowsensors • Body temperature and temperature sensors • Bioelectrodes, Biopotential • ECG (Eindhoven, Goldberger, Wilson), 3D Projection • Pumps: infusion, perfusion, safety concepts • Cardiac Pacemakers and defibrillators
Literature	Webster. John G: Medical Instrumentation, 3rd edition, Wiley and Sons.
Remarks	