Module Name: **MATLAB - Project**	

Module Responsibility / Lecturer	Prof. Dr. rer. nat. Tim Jürgens		
Department, Facility	THL, Dept. Applied Natural Sciences		
Course of Studies	Medical Microtechnology, Master		
Compulsory/elective	Compulsory	**ECTS Credit Points**	4
Semester of Studies	1	**Semester Hours per Week**	2
Length (semesters)	1	**Workload (hours)**	120
Frequency	WiSe	**Presence Hours**	30
Teaching Language	English	**Self-Study Hours**	90
Consideration of Gender and Diversity Issues	☒ Use of gender-neutral language (THL standard)		
	☐ Target group specific adjustment of didactic methods		
	☐ Making subject diversity visible (female researchers, cultures etc.)		
Applicability	Biomedical Engineering, Medical Microtechnology		
Remarks	None		

Course : MATLAB - Project

Course Number		**Short Name**	
Course Type	Exercise	**Form of Learning**	Presence
Mandatory Attendance	☒	**ECTS Credit Points**	4
Participation Limit	25	**Semester Hours per Week**	2
Group Size (practical training, exercises, …)	2	**Workload (hours)**	120
Teaching Language	English	**Presence Hours**	24
Study Achievements („Studienleistung", SL)	Exercise	**Self-Study Hours**	96

SL Length (minutes)	90	SL Grading System	One-third Grades
Exam Type	Written Exam	Exam Language	English
Exam Length (minutes)	60	Exam Grading System	One-third Grades
Learning Outcomes	The students • are able to solve basic programming exercises using MATLAB • know the syntax of script language MATLAB • can apply a research-oriented task towards digital implementation with MATLAB • are able to use multiple ways of data visualization using MATLAB • understand basic concepts of signal processing with MATLAB-realized algorithms		
Participation Prerequisites	None		
Contents	• Datatypes • Basic built-in MATLAB functions • Matrices and vectors • Basic and advanced plotting tools • Switch- and if-statements, for- and while-loops • Boolean operators • Cell and struct arrays		
Literature	• S. Eshkabilov, „*Beginning MATLAB and Simulink: From Novice to Professional*", Apress publishing, 2019. • T. Lyche, „*Exercises in Computational Mathematics with MATLAB (Problem Books in Mathematics)*", Springer publishing, 2014. • E. Tzvi, S. Oung, „*MATLAB introduction*", electronic lecture manuscript, 2017. • Timothy A. Davis & Kermit Sigmon: „*MATLAB Primer*" (7th Edition), Chapman and Hall CRC.		
Remarks	None		