1.	Field of study	Biophysics
2.	Faculty	Faculty of Science and Technology
3.	Academic year of entry	2021/2022 (winter term)
4.	Level of qualifications/degree	second-cycle studies
5.	Degree profile	general academic
6.	Mode of study	full-time

Module: Biofluids and Materials Interactions

Module code: W4-2BF-MB-21-08

1. Number of the ECTS credits: 3

2. Learning outcomes of the module

code	description	learning outcomes of the programme	level of competence (scale 1-5)
MB_08_1	know the biofluid mechanics	KBF_K01 KBF_U08 KBF_W01 KBF_W02	4 4 4 4
MB_08_2	know the basics of biofluids in the human body	KBF_K01 KBF_U08 KBF_W01 KBF_W02	4 4 4 4
MB_08_3	know the interactions of fluids with gas and sound waves	KBF_K01 KBF_U08 KBF_W01 KBF_W02	4 4 4 4

3. Module description

Description	Introduction to biofluid mechanics: definitions of fluid, fluid hydrostatics, and fluid dynamics; pressure and shear stress; fluid properties (density, viscosity); types of fluids (Newtonian, non-Newtonian); types of fluid flow (laminar, turbulent). Fluids in the human body, Blood-material interactions: Blood fluid dynamics; the influence of materials surface. Fluid materials interacting with gas and sound waves. Metal corrosion in biofluids.

Prerequisites	

4. Assessment of the learning outcomes of the module

code	type	description	learning outcomes of the module
MB_08_w_1	exam	Oral exam	MB_08_1, MB_08_2, MB_08_3

5. Forms of teaching

code	form of teaching			required hours of student's own work		assessment of the learning outcomes of the module
	type	description (including teaching methods)	number of hours	description	number of hours	
MB_08_fs_1	lecture	Detailed discussion by the lecturer of the issues listed in the table "module description" using the table and/or multimedia presentations	24	Supplementary reading, working with the textbook	51	MB_08_w_1