1.	Field of study	Materials Science and Engineering
2.	Academic year of entry	2018/2019 (summer term)
3.	Level of qualifications/degree	second-cycle studies
4.	Degree profile	general academic
5.	Mode of study	full-time

Module: Monographic lecture 1. Shape memory alloys in medicine

Module code: IM2A_WM1_SMAM

1. Number of the ECTS credits: 2

2. Learning outcomes of the module

code	description	learning outcomes of the programme	level of competence (scale 1-5)
IM2A_WM1_SMAM_1	Understanding of the nature of reversible martensitic transformation and phenomena classified as the shape memory effect occurring in metals, their alloys and polymers; learning the group of materials featuring shape memory effects.	IM2A_W06 IM2A_W07 IM2A_W10	2 2 5
IM2A_WM1_SMAM_2	Understanding ethical, economic and ecological aspects of materials designing for applications in medicine.	IM2A_K05 IM2A_W18	1 5

3. Module description

Description	The module Shape memory alloys in medicine shall enable students learning the nature of phenomena classified as the shape memory effect and factors having a decisive influence on martensitic transformation reversibility and on the shape memory effect inducing in engineering materials. This knowledge is necessary to obtain the skill to design alloys for specific applications, including medical applications.
Prerequisites	Achieving effects of education in materials science and engineering materials modules.

4. Assessment of the learning outcomes of the module

code	type	description	learning outcomes of the module
IM2A_WM1_SMAM_w_1	Test	Verification of knowledge based on the lectures content and recommended literature.	IM2A_WM1_SMAM_1, IM2A_WM1_SMAM_2

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	
IM2A_WM1_SMAM _fs_1	lecture	The lecture shall enable understanding of issues related to the nature of factors conditioning the occurrence of shape memory effects as well as basics enabling designing of engineering materials featuring the shape memory effect. The lecture is delivered with the use of multimedia.	30	The work with the recommended literature comprising independent acquisition of knowledge related to basic issues.	30	IM2A_WM1_SMAM_w