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 2. Nanomaterials in medicine

Module code: IM2A_WM2_NWM

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_WM2_NWM_1	Understanding conceptual basics of nanomaterials application in medicine and characteristics of their structure and properties; understanding relationships between the structural scale of nanomaterials and their properties, being knowledgeable about current development trends of nanomaterials for applications in medicine.	IM2A_W05 IM2A_W11 IM2A_W16 IM2A_W17	2 2 2 2
IM2A_WM2_NWM_2	The skill to evaluate basic features and possibilities of nanomaterials application in medicine.	IM2A_U14	3
IM2A_WM2_NWM_3	Development of the awareness of nanomaterials application consequences in medicine.	IM2A_K02	1

3. Module description

Description	The module Nanomaterials in medicine shall enable that students are knowledgeable about the classification, structure, defects and properties of nanomaterials used in medicine and about methods of their obtaining, testing and in applications corresponding with modern medicine requirements. Owing to that students will be capable of selecting the material, the method of its obtaining depending on biometric and operational parameters of specific elements of equipment and also to obtain a better understanding of correlations between bionanomaterials obtaining methods, their structure and properties as well as mechanisms forming their properties. In addition, the module will enable students familiarising with a wide range of nanomaterials medical applications and with principles of their operation. This will allow in turn honing the skill to form nanomaterials structure and properties necessary for diverse medical applications.
Prerequisites	It is required to achieve effects of education of the modules: physics, chemistry, crystallography, materials testing methods .

4. Assessment of the learning outcomes of the module			
code	**type**	**description**	**learning outcomes of the module**
IM2A_WM2_NWM_w_1	Written test/conversation	Verification of knowledge based on the lectures content and recommended literature.	IM2A_WM2_NWM_1, IM2A_WM2_NWM_2, IM2A_WM2_NWM_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**	
IM2A_WM2_NWM_fs_1	lecture	The lecture shall enable understanding issues related to the classification, structure, properties, methods of obtaining and applications as well as testing nanomaterials used in medicine. The lecture is delivered with the use of multimedia.	30	The work with the recommended literature comprising independent acquisition of knowledge in the field of issues raised during the lecture.	30	IM2A_WM2_NWM_w_