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

Module: Polymers for medicine

Module code: IM1A_PDM

1. Number of the ECTS credits: 5

2. Learning outcomes of the module

code	description	learning outcomes of the programme	level of competence (scale 1-5)
IM1A_PDM_1	An elementary knowledge comprising the classification, structural design, properties and manufacturing methods of polymer materials used in medicine and their influence on living organisms; being knowledgeable about current development trends of the chemistry of polymer materials used for medical purposes.	IM1A_W11 IM1A_W17	1 3
IM1A_PDM_2	Distinguishing basic groups of polymer materials for medical applications.	IM1A_W16	3
IM1A_PDM_3	The skill to evaluate basic features and possibilities of a selected polymer material application in medicine.	IM1A_U14 IM1A_U25	3 2
IM1A_PDM_4	Development of the awareness of polymer biomaterials application consequences in medicine.	IM1A_K02	1

3. Module description

Description	The Polymers for medicine module allows students to acquire a basic knowledge about polymer materials used for medical purposes. Owing to that students should be capable of classifying the aforementioned materials, of showing basic criteria for their selection, as well as should be aware of the inevitability of biodegradation processes occurrence. These skills will allow understanding the relation between the chemical and phase structure, the condition of polymer materials surface and the practical properties of the material, as well as being knowledgeable about current development trends of the chemistry of polymer materials used for medical purposes.
Prerequisites	It is required to achieve effects of education of the modules: physics, chemistry, materials testing methods, polymers and introduction to biomaterials.

4. Assessment of the learning outcomes of the module

code	type	description	learning outcomes of the module
IM1A_PDM_w_1	Written examination	Verification of the knowledge based on the lectures content, recommended literature and attended classes.	IM1A_PDM_1, IM1A_PDM_2, IM1A_PDM_3, IM1A_PDM_4
IM1A_PDM_w_2	Written test	Checking the acquired skills of basic description of polymer materials and of their classification.	IM1A_PDM_1, IM1A_PDM_2, IM1A_PDM_3, IM1A_PDM_4

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	
IM1A_PDM _fs_1	lecture	The lecture shall present and explain basic criteria for classification and selection of polymer materials used for medical purposes. The lecture is delivered with the use of multimedia, demonstrations and exhibits.	30	The work with the literature materials recommended as sources, comprising an independent analysis and the acquisition of knowledge about the analysed issues.	45	IM1A_PDM_w_1
IM1A_PDM _fs_2	laboratory classes	The classes are aimed at performing a practical analysis of basic issues related to polymer materials properties, calculating the molecular masses, and determining parameters characteristic of polymer materials. Classes are conducted based on discussion and resolving tasks with the use of multimedia, demonstration and exhibits.	30	Preparation of theoretical basics and issues related to the process of polymers manufacturing as well as examining their properties. Processing of test results, preparing reports.	45	IM1A_PDM_w_2