GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Special Purpose Polymeric Materials, PG_00039601		
Field of study	Materials Engineering, Materials Engineering, Materials Engineering		
Date of commencement of studies	February 2023	Academic year of realisation of subject	2022/2023
Education level	second-cycle studies	Subject group	Optional subject group Subject group related to scientific research in the field of study
Mode of study	Full-time studies	Mode of delivery	at the university
Year of study	1	Language of instruction	Polish
Semester of study	1	ECTS credits	3.0
Learning profile	general academic profile	Assessment form	assessment
Conducting unit	Department of Polymers Technology -> Faculty of Chemistry		
Name and surname of lecturer (lecturers)	Subject supervisor	prof. dr hab. inż. Janusz Datta	
	Teachers	dr hab. inż. Łukasz Piszczyk dr inż. Ewa Głowińska prof. dr hab. inż. Józef Haponiuk dr hab. inż. Justyna Kucińska-Lipka dr hab. inż. Michał Strankowski dr inż. Paulina Parcheta-Szwindowska dr inż. Maciej Sienkiewicz dr inż. Marcin Włoch prof. dr hab. inż. Janusz Datta	

Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	0.0	0.0	0.0	15.0	45
	E-learning hours included: 0.0						

Learning activity and number of study hours	Learning activity	Participation in didactic classes included in study plan	Participation in consultation hours	Self-study	SUM
	Number of study hours	45	5.0	25.0	75

Subject objectives	Providing knowledge on polymers for special applications, used in machine construction, electrical engineering and electronics, and in biomedical applications.

Learning outcomes

Course outcome	Subject outcome	Method of verification
K7_W06	The student knows the physical basics of determining the physicochemical parameters used to classify and evaluate the functionality of polymeric materials.	[SW2] Assessment of knowledge contained in presentation [SW1] Assessment of factual knowledge
[K7_K82] is equipped to participate actively in lectures, seminars and laboratory classes conducted in foreign language	The student is able to prepare a presentation in English on the application of polymers and understand the content of the lectures on this subject, delivered in English.	[SK5] Assessment of ability to solve problems that arise in practice [SK4] Assessment of communication skills, including language correctness
K7_U01	The student is able to collect and critically present practical information on the properties and applications of various types, including commercial varieties of plastics	[SU5] Assessment of ability to present the results of task [SU3] Assessment of ability to use knowledge gained from the subject [SU2] Assessment of ability to analyse information
K7_W05	The student is able to select the appropriate polymeric materials for specific engineering applications.	[SW3] Assessment of knowledge contained in written work and projects [SW1] Assessment of factual knowledge

Subject contents

Polymer engineering plastics for electrical and electronic applications.Polymers used in the automotive, aviation and space industries.Prototyping and 3D printing using polymer materials.Applications of self-healing polymeric materials and shape memory polymers.Polymer composites and nanocomposites. Biopolymers.Polymers in medicine.

Prerequisites and co-requisites

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
seminar - evaluation of the presentation	50.0%	50.0%
Lectures - test examination	50.0%	50.0%

Recommended reading

Basic literature	Tytuł: **Polimery** Podtytuł: **Otrzymywanie, metody badawcze i zastosowania.** Autor: **Rabek Jan F.** Wydawnictwo: **Wydawnictwo Naukowe PWN** ISBN: **9788301173876** Języki: **polski** Rok wydania: **2016**
Supplementary literature	scientific literature data bases
eResources addresses	Adresy na platformie eNauczanie:

Example issues/ example questions/ tasks being completed

1. Insulating properties of polymeric materials.2. Application of polymers in road and rail vehicles.3. Applications of conductive composites.4. Polymer nanocomposites in the packaging industry.6. The use of polymers in prosthetics and tissue engineering.7. Polymers in construction.

Work placement

Not applicable