University of Gdańsk

Subject card

Subject name and code	Inorganic materials in technology and medicine, PG_00051065		
Field of study	Chemistry		
Date of commencement of studies	October 2026	Academic year of realisation of subject	2027/2028
Education level	Bachelor's studies	Subject group	Optional subject group
Mode of study	full-time studies	Mode of delivery	at the university
Year of study	2	Language of instruction	Polish
Semester of study	3	ECTS credits	2.0
Learning profile	academic	Assessment form	credit
Conducting unit	Laboratory of Carbohydrate Chemistry -> Department of Organic Chemistry -> Faculty of Chemistry -> Rector		
Name and surname of lecturer (lecturers)	Subject supervisor	dr hab. Janusz Madaj	
	Teachers		

Lesson types

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	30.0	0.0	0.0	0.0	0.0	30

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	30	5.0	15.0	50

Subject objectives

presenting students with basic issues regarding the types, synthesis, properties and applications of selected materials

Learning outcomes

Course outcome	Subject outcome	Method of verification
[CHEML3_K01] Identifies the level of her/his own knowledge and skills and the need for continuous learning and personal development.	understands the need for further education	[SK4] test/exam - oral or written
[CHEML3_W03] Explains the relationship between the structure of matter and its observed properties.	formulates and defines basic concepts characterizing inorganic materials; presents the structure and characterizes the physicochemical properties of selected inorganic materials;	[SW4] test/exam - oral or written
[CHEML3_W05] Has basic knowledge of the chemical specialisation studied.	formulates and defines basic concepts characterizing inorganic materials; presents the structure and characterizes the physicochemical properties of selected inorganic materials;	[SW4] test/exam - oral or written

Subject contents

Lecture topics: types of inorganic materials; examples of hard materials used for cutting and machining; hardness scales and their applications; methods of synthesis of jewelry materials, single crystal synthesis; glass production, composition and properties; enamels and inorganic dyes (pigments); ancient and modern inorganic drugs; composition, structure and use of biomaterials; medical implants; scintillation materials used in medical imaging techniques

Prerequisites and co-requisites

knowledge of basic issues in general chemistry

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
Pass with grade	51.0%	100.0%

Recommended reading

Basic literature	Andrzej Szymański Mineralogia techniczna, wyd. PWN 1997.
Supplementary literature	non

	eResources addresses	
Example issues/ example questions/ tasks being completed	Consistent with the content of the lecture	
Work placement	Not applicable	

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