

Subject card

Subject name and code	Inorganic materials in technology and medicine, PG_00051065						
Field of study	Chemistry						
Date of commencement of studies	October 2024	Academic year of realisation of subject			2025/2026		
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 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		dr hab. Janusz Madaj				
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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