


KAPITAŁ LUDZKI
 NARODOWA STRATEGIA SPÓJNOŚCI

 Projekt współfinansowany przez
 Unię Europejską w ramach
 Europejskiego Funduszu
 Społecznego

UNIA EUROPEJSKA
 EUROPEJSKI
 FUNDUSZ SPOŁECZNY


Course title		ECTS code	
Repetitory in general and inorganic chemistry		13.3.1287	
Name of unit administrating study			
Faculty of Chemistry			
Studies			
faculty	field of study	type	drugiego stopnia
Wydział Chemii	Chemia	form	stacjonarne
		specjalty	Digital Chemistry
		specialization	wszystkie
Teaching staff			
dr inż. Krzysztof Żamojć			
Forms of classes, the realization and number of hours		ECTS credits	
Forms of classes		3	
Auditorium classes		classes - 30 h	
The realization of activities		student's own work – 30 h	
classroom instruction		tutorial classes – 15 h	
Number of hours		TOTAL: 75 h – 3 ECTS	
Auditorium classes: 30 hours			
The academic cycle			
2023/2024 winter semester			
Type of course		Language of instruction	
obligatory		English	
Teaching methods		Form and method of assessment and basic criteria for evaluation or examination requirements	
Multimedia presentation, in-class examples, exercises, solving problems, conversation and discussion.		Final evaluation	
		Graded credit	
		Assessment methods	
		written exam (test)	
		The basic criteria for evaluation	
		A single choice test covering the whole material. Assessment criteria in accordance with the University of Gdańsk Study Regulations.	
Method of verifying required learning outcomes			
Required courses and introductory requirements			
A. Formal requirements			
none			
B. Prerequisites			
basic knowledge in general and inorganic chemistry			
Aims of education			
Familiarize students with the main aspects of general chemistry and classes of inorganic compounds			
Course contents			
Atomistic theory of matter (atomic nucleus, isotopes, electronic structure of atoms, quantum numbers, atomic orbitals), basic chemical terms and laws, periodic table of elements, chemical equations (including redox reactions), chemical bonds, basic types of inorganic compounds, stoichiometry, solutions and their concentrations, thermochemistry, kinetics and chemical equilibrium, theories of acids and bases, equilibria in the solutions of electrolytes, electrolytic dissociation, pH scale, pH of solutions of strong and weak acids and bases, buffer solutions, hydrolysis, elements of electrochemistry.			
Bibliography of literature			

Literature required to pass the course P. Atkins, L. Jones – CHEMISTRY. Molecules, matter, and change P. Atkins, L. Jones, L. Laverman – Chemical principles. The quest for insight Extracurricular readings L. Pauling – General chemistry M. J. Sienko, R. A. Plane – Chemistry: principles and properties J. D. Lee – Concise inorganic chemistry F. A. Cotton – Basic inorganic chemistry D. A. Cox – Inorganic chemistry	
The learning outcomes (for the field of study and specialization) K_W02: has in-depth knowledge in the field of general and inorganic chemistry K_W04: applies the acquired knowledge to an in-depth description of the properties of chemical connections, methods of their synthesis and analysis K_U01: plans chemical experiments of extended complexity K_U03: finds necessary information in specialist literature K_U04: applies acquired knowledge of general and inorganic chemistry and related scientific disciplines K_K01: knows the limitations of her/his own knowledge; understands the need for further education K_K05: understands the need for independent search of information in scientific literature	Knowledge Students: know main states of matter; understand structure and properties of atoms as well as other chemical particles; understand essence of main types of chemical bonds; understand main chemical terms, laws and phenomena, know basic terminology and symbolism in terms of elements, inorganic compounds, electrolytes, electrolytic dissociation as well as chemical reactions in water solutions; know physicochemical properties of chosen elements and chemical compounds (oxides and hydrides of metals and nonmetals, bases, acids and salts); know main applications of known chemical substances as well as threats connected with their inappropriate use; know main techniques of calculations in chemistry.
	Skills Students: present plainly – in both speech and writing – correct chemical argumentation; present and explain chemical phenomena and processes, i.e. write molecular and ionic equations for chemical reactions, interpret qualitatively and quantitatively equations for chemical reactions; interpret and analyze information connected with general and inorganic chemistry presented as text, tables, plots, schemes, figures; formulate descriptions of different chemical phenomena and processes, describe them with use of own words and figures (schemes); explain similarities and differences in properties of elements, relations between structure of substances and their properties; notice causal links in chemical processes performed in different conditions, where typical chemical reactions occur; explain course of different phenomena from everyday life with the use of chemical knowledge in correlation with other sciences; interpret information, formulates conclusions and explain opinions.
	Social competence Students: understand need for learning, inspire other for learning; cooperate in group, taking different roles; exhibit creativity in determination of priorities necessary for realization of different tasks; understand social aspects of practical use of knowledge and abilities as well as connected with them responsibility.
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