


KAPITAŁ LUDZKI
 NARODOWA STRATEGIA SPÓJNOŚCI

 Projekt współfinansowany przez
 Unię Europejską w ramach
 Europejskiego Funduszu
 Społecznego

UNIA EUROPEJSKA
 EUROPEJSKI
 FUNDUSZ SPOŁECZNY


Course title		ECTS code	
Inorganic chemistry		7.2.0597	
Name of unit administrating study			
Faculty of Chemistry			
Studies			
faculty	field of study	type	pierwszego stopnia
Wydział Chemii	Ochrona środowiska	form	stacjonarne
		specjalty	Podstawowa
		specialization	Podstawowa
Teaching staff			
prof. dr hab. inż. Lech Chmurzyński; dr Aleksandra Tesmar; dr inż. Krzysztof Żamojć; dr Mateusz Kowalik; dr inż. Paulina Spisz; prof. UG, dr hab. Agnieszka Chylewska; mgr Ola Grabowska; dr hab. Joanna Makowska, profesor uczelni; prof. dr hab. Mariusz Makowski; dr hab. Dariusz Wyrzykowski; dr inż. Małgorzata Gawrońska			
Forms of classes, the realization and number of hours		ECTS credits	
Forms of classes		5	
Auditorium classes, Laboratory classes, Lecture		classes - 60 h	
The realization of activities		tutorial classes – 30 h	
classroom instruction		student's own work – 35 h	
Number of hours		Total: 125 h - 5 ECTS	
Lecture: 15 hours, Laboratory classes: 30 hours, Auditorium classes: 15 hours			
The academic cycle			
2022/2023 summer semester			
Type of course		Language of instruction	
obligatory		polish	
Teaching methods		Form and method of assessment and basic criteria for eveluation or examination requirements	
<ul style="list-style-type: none"> - conducting experiments - multimedia-based lecture - problem solving 		Final evaluation	
		<ul style="list-style-type: none"> - Graded credit - Examination 	
		Assessment methods	
		<ul style="list-style-type: none"> - written exam with open questions - (mid-term / end-term) test 	
		The basic criteria for evaluation	

The basic criteria for evaluation or exam requirements

Lecture: positive note from an exam with 15-20 open questions:

91-100%: 5.0

81-90%: 4.5

71-80%: 4.0

61-70%: 3.5

51-60%: 3.0

< 51%: 2.0

Auditorium classes: positive note from two tests, final note is an average from notes from both tests

91-100%: 5.0

81-90%: 4.5

71-80%: 4.0

61-70%: 3.5

51-60%: 3.0

< 51%: 2.0

Lab classes: positive note from each lab test, final note is an average from notes from all the tests

91-100%: 5.0

81-90%: 4.5

71-80%: 4.0

61-70%: 3.5

51-60%: 3.0

< 51%: 2.0

Method of verifying required learning outcomes**Required courses and introductory requirements****A. Formal requirements**

none

B. Prerequisites

none

Aims of education

Aims of education

presenting basic issues in inorganic chemistry to students

familiarize students with fundamental properties of the elements and inorganic compounds as well as their industrial role

familiarize students with the basis of chemical calculations in the field of inorganic chemistry

Course contents

Course contents

Topics of the lecture: periodicity and the chemistry of the elements, physicochemical properties of inorganic and coordination compounds. The following items are included: periodicity, chemical bonding, coordination compounds, types of chemical reactions, properties of chemical elements and their compounds. The groups of elements are presented in the following order: group 1, group 2, group 13, group 14, group 15, group 16, group 17, group 18, and d-elements (groups 3-12; first transition row, second transition row, and third transition row).

Topics of auditory classes: basic types of inorganic compounds, balancing redox reactions, equilibria in the solutions of electrolytes.

Topics of lab classes: investigation of physicochemical properties of the elements, inorganic and coordination compounds based on chemical experiments.

Bibliography of literature

Bibliography of literature

Literature required to pass the course

Chemistry of the Elements, N. N. Greenwood, A. Earnshaw, Elsevier Science & Technology Books, 2005

General chemistry, Wendell H. Slabaugh, Thera D. Parsons, New York: John Wiley and Sons, 1966

College chemistry : an introductory textbook of general chemistry, Linus Pauling, Roger Hayward, San Francisco: W. H. Freeman and Company, 1950.

General chemistry, John H. Sechrist, Wendell H. Powers, Princeton, New Jersey : D. Van Nostrand Company, Inc., 1966

Basic inorganic chemistry, F. Albert Cotton, Geoffrey Wilkinson, New York: John Wiley & Sons, 1976.

Inorganic chemistry, Alan G. Sharpe, London : Longman Scientific Technical, New York : John Wiley & Sons, 1992

Inorganic chemistry: an industrial and environmental perspective, T. W. Swaddle, Thomas Wilson, San Diego: Academic Press, 1997

Extracurricular readings

1. Problem exercises for general chemistry, G. Gilbert Long, Forrest C. Hentz, New York: John Wiley & Sons, cop. 1978
2. General chemistry: principles and structure, James E. Brady, Gerard E. Humiston, SI version prepared by Henry Heikkinen, New York : John Wiley & Sons, 1982
3. The chemistry of the rare-earth elements, N. E. Topp, Amsterdam : Elsevier Publ. Co., 1965.

The learning outcomes (for the field of study and specialization)**Knowledge****Skills****Social competence****Contact**

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