

General chemistry - course description

General information	
Course name	General chemistry
Course ID	13.3-WF-FizP-GCh-S17
Faculty	Faculty of Physics and Astronomy
Field of study	Physics
Education profile	academic
Level of studies	First-cycle studies leading to Bachelor's degree
Beginning semester	winter term 2019/2020

Course information	
Semester	3
ECTS credits to win	3
Available in specialities	General physics
Course type	obligatory
Teaching language	english
Author of syllabus	<ul style="list-style-type: none">dr hab. Jacek Koziół, prof. UZ

Classes forms					
The class form	Hours per semester (full-time)	Hours per week (full-time)	Hours per semester (part-time)	Hours per week (part-time)	Form of assignment
Lecture	30	2	-	-	Exam

Aim of the course

Transfer of knowledge on the structure of matter with a particular focus the elements and compounds, and their role in nature, including living organisms,

Prerequisites

Knowledge of chemistry at the high school level

Scope

Basic concepts and laws of chemistry. The periodic table of elements. Structure of molecules. Types of chemical bonds. The polarity of the molecules. Acids, bases, salts, amphoteric compounds. Properties of solutions: strong and weak electrolytes, electrolytic dissociation in the water and the concept of pH, hydrolysis of salts. Buffer solutions. Solubility. Types of chemical reactions. Elements of Organic Chemistry: basic types of organic methods for their preparation and their physical and chemical properties

Teaching methods

By providing lectures in the form of a multimedia presentation

Learning outcomes and methods of theirs verification

Outcome description	Outcome symbols	Methods of verification	The class form
The student is able to perform the analysis of the theoretical and experimental results.	<ul style="list-style-type: none">K1A_U02	<ul style="list-style-type: none">a quiz	<ul style="list-style-type: none">Lecture
The student is able to analyze and solve problems based on the physicochemical properties acquired knowledge and information from the available literature sources, databases, Internet resources, both in Polish and foreign	<ul style="list-style-type: none">K1A_U01	<ul style="list-style-type: none">a quiz	<ul style="list-style-type: none">Lecture
The student is aware of his/her knowledge and skills, and understands the need to know the possibilities of continuous further training (second-and third-degree, postgraduate) - improving professional and personal competence.	<ul style="list-style-type: none">K1A_K01	<ul style="list-style-type: none">a quiz	<ul style="list-style-type: none">Lecture
The student has a general knowledge about the basic chemistry.	<ul style="list-style-type: none">K1A_W01	<ul style="list-style-type: none">a quiz	<ul style="list-style-type: none">Lecture
The student understands and can explain the course of phenomena and descriptions of chemical and physicochemical processes.	<ul style="list-style-type: none">K1A_W03	<ul style="list-style-type: none">a quiz	<ul style="list-style-type: none">Lecture
The student understands the need to improve professional skills and personal, using various sources of information in order to broaden knowledge.	<ul style="list-style-type: none">K1A_K04	<ul style="list-style-type: none">a quiz	<ul style="list-style-type: none">Lecture

Assignment conditions

To pass the assessment, it is necessary to obtain sufficient 60 points (60%) of 100 points. may be obtained.

Recommended reading

[1] P. A. Cox, *Chemia nieorganiczna*, Wydawnictwo Naukowe PWN, Warszawa 2004.

[2] L. Jones, P. Atkins, *Chemia ogólna*, Wydawnictwo Naukowe PWN, Warszawa 2004.

[3] G. Patrick, *Chemia organiczna*, Wydawnictwo Naukowe PWN, Warszawa 2004.

[4] A. G. Whittaker, A. R. Mount, M. R. Heal, *Chemia fizyczna*, Wydawnictwo Naukowe PWN, Warszawa 2004.

Further reading

Notes

Modified by dr hab. Piotr Lubiński, prof. UZ (last modification: 19-02-2020 17:06)

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