COURSE INFORMATION SHEET

University: Catholic University in Ružomberok	
Faculty: Faculty of Education	
Course code: KCH/Ch-BD100A/22	**Course title:** General Chemistry
Type and range of planned learning activities and teaching methods: **Form of instruction:** Lecture / Seminar **Recommended study range:** **hours weekly:** 2 / 2 **hours per semester:** 26 / 26 **Teaching method:** on-site	
Credits: 4	**Working load:** 100 hours
Recommended semester/trimester: 1.	
Level of study: I.	
Prerequisities:	
Requirements for passing the course: During the semester, the student proves his theoretical knowledge of basic chemical laws and concepts in the form of two written tests. To participate in the exam, it is necessary to get at least 50% in both tests. The final evaluation will be based on the total number of points obtained from the tests and the final oral exam.	
Learning outcomes of the course: After completing the subject, the student will acquire the following knowledge, skills and competences: - He has expert knowledge in the field of basic concepts, chemical laws, principles and the mutual connection of phenomena, in the theoretical foundations of general chemistry and basic chemical calculations. - The graduate can propose solutions to methodological, professional and practical problems in chemistry.	
Course contents: Course contents: 1. Subject and object of chemistry research. Basic concepts, quantities and laws of chemistry. 2. Construction and structure of the atom. 3. Periodic law and periodic table of elements. 4. Chemical bond. Ionic, covalent, metallic bond. Weak binding interactions. 5. Chemical structure and properties of substances. Chemical states and chemical changes of substances. 6. Solutions and solubility of substances. Formation and properties of salt. Electrolytes. Theory of acids and bases. 7. Chemical reactions. Reaction kinetics. Fast, slow and catalyzed chemical reactions. 8. Thermochemistry and chemical thermodynamics. Exothermic and endothermic reactions. 9. Equilibrium of a chemical reaction. Unidirectional and reversible chemical reactions. 10. Classification of chemical reactions. Protolytic reactions. Dissociation of acids and bases, autoprotolysis of water, neutralization, hydrolysis of salt. 11. Redox reactions. Electrode potentials. Corrosion of metals, electrolysis, galvanic plating, galvanic cells and accumulators.	

12. Precipitation and complexation reactions.

Recommended or required literature:
Ebbing, Darrell D.: General chemistry. Boston, Houghton Mifflin, 1987

Language of instruction:
anglický

Notes:

Course evaluation:
Assessed students in total: 8

A	B	C	D	E	FX
12.5	37.5	0.0	37.5	0.0	12.5

Name of lecturer(s): doc. Ing. Eva Culková, PhD.

Last modification: 06.08.2022

Supervisor(s):
Guarantor:
Administrátor Systému
People responsible for the delivery, development and quality of the study programme:
prof. ThDr. Rastislav Adamko, PhD., doc. Mgr. Marek Babic, PhD., doc. RNDr. Pavel Bella, PhD., prof. PaedDr. Mgr. art. Rastislav Biarinec, ArtD., prof. Irina Chelysheva, DrSc., prof. PaedDr. František Dlugoš, PhD., Mgr. Juraj Dvorský, PhD., prof. PhDr. Ingrid Emmerová, PhD., doc. Tatiana Korenkova, CSc., prof. PaedDr. Milan Ligoš, CSc., doc. Mgr. Eva Litavcová, PhD., doc. PaedDr. Peter Mačura, PhD., prof. PhDr. David Papajík, PhD., doc. Ing. Miroslav Saniga, CSc., prof. Nóra Séllei, PhD., DrSc., PhDr. ThLic. Martin Taraj, PhD., Prof. Ing. Peter Tomčík, PhD., prof. Dr. phil. fac. theol. Peter Volek, doc. Ing. Igor Černák, PhD.