



УНИВЕРЗИТЕТ У БАЊОЈ ЛУЦИ
UNIVERSITY OF BANJA LUKA
ПРИРОДНО-МАТЕМАТИЧКИ ФАКУЛТЕТ
FACULTY OF NATURAL SCIENCES AND MATHEMATICS



CHEMISTRY DEPARTMENT

FIRST CYCLE OF STUDY

Chemistry/Chemistry Education

Course name	Coordination Chemistry			
Course code	Course status	Semester	Hours of instruction	ECTS
1C16HOS1104	elective	V	2+2	5
Teacher(s)	Asst. Prof. Zvezdana Sandić, PhD			

Prerequisite course(s)	Entry requirements			
General Chemistry and Inorganic Chemistry	Passed exam			
Course goals				
The aim of this course is to give the basic aspects of the chemistry of coordination compounds.				
Learning outcomes				
The student will be able to name coordination compounds according to their nomenclature, to describe the basic structures of different classes of coordination compounds and their chemical properties, and to explain the nature of the chemical bonding in coordination compounds.				
Course content				
Historical development of Coordination Compounds Chemistry. Structure of coordination compounds - central ion and types of ligands. Nomenclature of coordination compounds. Geometry of coordination compounds. Isomerism in coordination compounds. Theory of valence bond, ligand field and molecular orbitals. Ligand field stabilization energy. Octahedral, tetrahedral and square-planar ligand field. Molecular-orbital diagrams in octahedral complexes. Magnetic properties of coordination compounds. Spectrochemical series of ligands. Jan-Teller effect. Stability of coordination compounds. Significance and application of coordination compounds.				
Teaching methods				
Lectures and experimental exercises				
Books and other learning materials				
S. Zarić: Chemistry of transition metals , Faculty of Chemistry, Belgrade 2015. I. Filipović, S. Lipanović: General and Inorganic Chemistry , Parts I and II, Školska knjiga, Zagreb 1995. D. Grdenić: Molecules and crystals , Školska knjiga, Zagreb 2000. Z. Sandić: lecture presentations for Inorganic Chemistry available on Google Classroom.				
Course activities and grading method				
The activity and the colloquium refer to the exercises and are a condition for taking the final exam. Two tests per semester -based on the lecture materials. The results are included in the final grade only if they exceed 50% of the predicted points for a given form of test during the semester.				
Activity	5	Tests	30	
Exit colloquium	5	Final exam	60	
Additional course notes				
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Name of the teacher who prepared this form		Zvezdana Sandić		