



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	Inorganic Synthesis			
Course code	Course status	Semester	Hours of instruction	ECTS
1C16HOS1105	elective	V	2+2	5 (OS) и 6 (NS)
Teacher(s)	Prof. Saša Zeljković PhD			

Prerequisite course(s)	Entry requirements			
General Chemistry, Inorganic Chemistry	Passed exams			
Course goals				
The aim is for students to get acquainted with the methods of inorganic compounds synthesis and different approaches when choosing precursors, heating methods and working conditions.				
Learning outcomes				
Students are able to describe and apply different approaches in the synthesis of inorganic compounds. They are able to choose the appropriate precursors and characterization methods.				
Course content				
Solid state method. Combustion synthesis. Synthesis reactions under high pressures. Mechanochemical and sonochemical methods of synthesis. Sol-gel synthesis. Synthesis in the microwave field. Synthesis under mild conditions. Solvent-deficient method. Green synthesis. Experimental exercises: Use of different methods for the synthesis of selected inorganic compounds. Characterization of the prepared compounds with the aim of comparing and selecting the appropriate synthetic route of the mentioned compounds.				
Teaching methods				
Lectures and laboratory exercises				
Books and other learning materials				
C.N.R. Rao, Kanishka Biswas: Essentials of Inorganic Materials Synthesis , John Wiley & Sons, New York, 2015. R. West: Solid State Chemistry and its Applications , Wiley, New York, 2014. Internal practicum for laboratory exercises.				
Course activities and grading method				
The colloquium of the exercise and the activity refer to the exercises and are a condition for taking the final exam. Tests, two tests per semester. The first from the material to the phase diagrams (including phase diagrams). Others from materials from microscopy to thermal analysis. The results of these tests are included in the final grade only if they exceed 50% of the points provided for a given form of test during the semester.				
Colloquium and activity	10	Test 2	15	
Test 1	15	Final exam	60	
Additional course notes				
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Name of the teacher who prepared this form		Saša Zeljković		