

Description of an Individual Course Unit

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Study program		All		
Module				
Type and level of studies		PhD studies		
Course title		Structure and reactivity of inorganic compounds		
Professor (for lectures)		Nevenka Rajić, Dejan Poleti, Jelena Rogan		
Professor/assistant (for practice)				
Professor/assistant (for LAB)				
Number of ECTS		5	Type of the course (mandatory/elective)	elective
Prerequisite				
Objective of the course The objectives of this course are to give the student a broad understanding of theoretical inorganic chemistry; understanding how structure and bonding influence the physical properties and ; reactivity of inorganic molecules; understanding of all major types of inorganic mechanism; knowledge of the increasingly important role played by transition metals in modern chemistry as reagents and catalysts as well as their corresponding proposed reaction mechanisms.				
Learning outcomes of the course The student will have a broad knowledge of: the principles of atomic and molecular structures; chemistry of main group and transition group elements; the role of important chemical elements and their compounds in chemical technology. The student can utilize principles of kinetics, thermodynamics, and equilibria in the prediction of inorganic reaction and will be able to evaluate critically articles published within the domain of the learning objectives listed for this course. ; ;				
Course Contents				
Theoretical contents Atomic and molecular structure; Molecular shape and symmetry; Structure of solids; d-Metal complexes - structures and symmetries; Electronic spectra of complexes and magnetism; Coordination chemistry; Reactions, kinetics and mechanism; Inorganic chains, rings, cages and clusters; Organometallic chemistry - bonding and structure; catalysis				
Practical part (practices, LAB, study research work) Synthesis and characterization of two inorganic compounds performing a literature review.				
Literature				
1	J.E. Huheey, E.A. Keiter and R.L. Keiter, Inorganic Chemistry: Principles of Structure and Reactivity, HarperCollins, Forth Ed., N. York, 1993			
2				
3				
Lessons per week				
Lectures	Practices	LAB	Study research work	Other activities
2				
Teaching Methods Lectures, laboratory works, seminar, tests				
Grading methods (max. number of points is 100)				
Pre-exam assesments		points	Final examination	
activity during lectures		10	written exam	
practical assesments		40	oral exam	
mid-term exams				
seminars		10		