



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	Selected Topics of Inorganic Chemistry			
Course code	Course status	Semester	Hours of instruction	ECTS
1C16HOS1100	required	IV	3+2	6
Teacher(s)	Prof. Saša Zeljković PhD			

Prerequisite course(s)	Entry requirements
General Chemistry, Inorganic Chemistry	Passed exams

Course goals

The aim of the course is to teach students modern trends in inorganic chemistry, i.e. the chemistry of transitional elements and their function and application both in industry and in various fields of science and technology.

Learning outcomes

The student is able to define general characteristics of the transitional elements with regard to their position in the periodic table of elements. Student is able to explain the relationship between the electronic structure and the macroscopic behavior of an element. He/She can describe the production and use, atomic and physical properties, chemical reactivity and significant reactions and compounds of the transition elements.

Course content

Periodic table and periodicity of transient elements. Elements of 3rd groups (scandium group), 4th group (titanium group), 5th group (vanadium group), 6th group (chromium group), 7th group (manganese group), 8th group (iron group), 9th group (cobalt group), 10th group (nickel group), 11th group (copper group) and 12th group (zinc group). Transition series of f-block elements. Transactinoids.

Experimental exercises: Properties of transitional elements. Synthesis of selected compounds of transition elements. Spectrophotometric determination of selected transition elements.

Teaching methods

Lectures and laboratory exercises

Books and other learning materials

S. Zeljković and J. Penavin Škundrić: **Selected Chapters in Inorganic Chemistry** (in Serbian), University of Banja Luka, Banja Luka, 2015. I. Filipović and S. Lipanović: **General and Inorganic Chemistry** (in Croatian), Part I and II, Školska knjiga, Zagreb, 1995. S. Arsenijević: **Inorganic Chemistry** (in Serbian), Naučna knjiga, Beograd, 1990. Internal practicum for laboratory exercises (in Serbian).

Course activities and grading method

The colloquium and the activity refer to the exercises and are a condition for taking the final exam. Tests: two per semester. The first including the material from introduction until manganese group (including manganese group). Others including the materials from the iron group to the transactinoids. 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

/

Name of the teacher who prepared this form	Saša Zeljković
---	----------------