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	Chemistry of Water			
Course code	**Course status**	**Semester**	**Hours of instruction**	**ECTS**
1C16HOS1132	elective	VIII	3+3	6
Teacher(s)	**Asst. Prof. Zvjezdana Sandić, PhD**			

Prerequisite course(s)	**Entry requirements**
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Course goals

The aim of this course is to provide the basic knowledge about the structure and physicochemical properties of water as a chemical compound and trough the hydrological cycle in the environment.

Learning outcomes

The student will learn the basics about the structure, properties of water and compounds soluble in it. They will be able to state and describe the preparation processes of drinking water, wastewater treatment, the way of taking samples for analysis and determination of basic parameters of water quality, as well as the legal basis for categorization of water.

Course content

The structure of water. Water properties and physicochemical parameters.
Gas solubility. Carbon(IV)oxide-carbonate equilibrium.
Eh-pH diagrams. Oxidation-reduction processes.
Dissolution process. Aqua complexes.
Sampling, water analysis, categorization and water quality.
Water quality parameters: pH, electrical conductivity, dissolved gases, hardness, COD, BOD, total organic carbon.
Significance of water and water cycle in nature.
Rivers and groundwater; self-purification. Standing waters (lakes and seas) - stratification and eutrophication.
Acid rain. Cycles of biogenic elements in the hydrosphere.
Drinking water and its preparation.
Industrial and wastewater. Water pollutants. Wastewater treatment - remediation.

Teaching methods

Lectures and experimental exercises

Books and other learning materials

D. Veselinović, I. Gržetić, Š. Đarmati, D. Marković: Physicochemical bases of environmental protection - Book I: **State and processes in the environment**, Faculty of Physical Chemistry, Belgrade, 1995.

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	Zvjezdana Sandić

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