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	Electrochemistry			
Course code	**Course status**	**Semester**	**Hours of instruction**	**ECTS**
1C16HOS415	elective	V	2+2	5 (GC) and 6 (TC)
Teacher(s)	Prof. Dijana Jelić PhD			

Prerequisite course(s)	Entry requirements
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Course goals

Introducing students with basic laws of electricity and chemical system interactions, application of these laws on solution of different physicochemical problems. Understanding of ionic solution equilibrium, measuring of electrolytic conductivity, electrode potentials and electromotive force in cells.

Learning outcomes

Student ability to: apply electrochemical laws in qualitative and quantitative analysis, determination of different physicochemical functions (enthalpy, entropy, Gibbs energy)

Course content

Basic phenomena in electrochemistry. Faradays laws of electrolysis. Electrolytic activity. Specific and molar conductivity. Law of independent ion transition, ions mobility. Diffusion, mobility number, ionic activity. Nernst-Planck equation. Application of conductometry. Electrolytic processes and electromotive force. Electrodes, classification. Determination of thermodynamics functions based on EMF measuring. Dependence of electromotive force on concentration and temperature. Application of electromotive force measuring. Electrode potential, table of standard electrode potentials. Reference electrodes. I, II and III order electrode. Ion selective electrode. Potentiometry. Conductometry. Structure of double electric layer.

Teaching methods

Lectures (seminar work), laboratory exercises,

Books and other learning materials

S.Mentus, Elektrohemija, Fakultet za fizičku hemiju, Beograd, 2001.
M. Sušić, Osnovi elektrohemije I elektrohemijske analize, Naučna knjiga, Beograd, 1980.
A. Despić, D.Dražić, O. Tatić-Janjić, Osnovi elektrohemije, Naučna knjiga, Beograd, 1070.
C.H.Hamann, A.Hamnett, W.Vielstich, Electrochemistry, Wiley-VCH, 1998.

Course activities and grading method

Students have laboratory test and seminar work. Oral exam.

Test	**20**		
Paper work	**20**	**Final exam**	**60**

Additional course notes

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Name of the teacher who prepared this form	prof. dr Dijana Jelić, PhD

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CHEMISTRY