



Course ID: HFHI09	Course name: ADVANCED COURSE OF ELECTROCHEMISTRY		
Cycle: SECOND	Year: FIRST	Semester: I	ECTS credits: 6
Course status: ELECTIVE		Total course hours: 90 Lectures: 60 Laboratory: 30	
Teaching participants:	Teachers and associates with expertise in the field to which the subject belongs		
Prerequisite for enrollment:	-		
Course aims:	The objectives of the course are to acquaint students with electrochemical methods, kinetics of electrode processes, influencing factors and methods that enable its monitoring and testing.		
Thematic course units:	<ol style="list-style-type: none">1. Fundamentals of kinetics of simple electrode processes2. Current-potential curves.3. Butler-Volmer equation.4. Double layer structure and kinetics of electrode reactions.5. Kinetics of complex electrode processes.6. Electrocatalysis.7. New phase formation.8. Reactions on semiconductor electrodes.9. Chronoamperometry.10. Linear and cyclic voltammetry.11. Electrochemical impedance spectroscopy.12. Nanoelectrochemistry.		
Learning outcomes:	Students will be able to get acquainted with the laws on which many instrumental methods of analysis, electrochemical methods of synthesis, kinetics of electrochemical processes, etc. are based. Knowledge: Acquired knowledge of electrochemistry, and electrochemical laws. Skills: Students will be able to use exact electrochemical methods as a basis for understanding the essence of chemical processes. Competences: Application of electrochemical methods in other branches of chemistry.		
Teaching methodology:	Lectures (Oral presentation and interactive teaching) Laboratory exercises		

Assessment methods and grading system¹:	Grading criteria		
	Criteria	Maximal score	Required score
	1. Class attendance	5	3
	2. Class activities	15	8
	3. Midterms	2 × 20	2 × 11
	4. Final exam	40	22
	Total	100	55
	Scores and grading		
	Score	Grade (B&H)	Grade (ECTS)
	< 55	5	F, FX
	55–64	6	E
	65–74	7	D
	75–84	8	C
85–94	9	B	
95–100	10	A	
Literature²:	<p>Mandatory literature:</p> <ol style="list-style-type: none"> 1. Mentus S., Elektrohemija, 3. izdanje, Univerzitet u Beogradu, Fakultet za fizičku hemiju, 2008. <p>Supplementary literature:</p> <ol style="list-style-type: none"> 2. C.H.Hamann, A. Hamnett, W.Vielstich, Electrochemistry, 2nd edition, Wiley 2007. 3. A.J.Bard, L.R.Faulkner, Electrochemical Methods-Fundamentals and Applications, John Wiley & Sons, 1980. 		

¹ The grading structure for each subject is determined by the Council of the organizational unit before the beginning of the academic year in which the subject is taught as per Article 64, paragraph 6 of the Law on Higher Education of Sarajevo Canton

² The Senate of the higher education institution, as an institution, or the Council of the organizational unit of the higher education institution, as a public institution, determines by a special decision, which is published on its website before the beginning of the academic year obligatory, mandatory and recommended textbooks and manuals, as well as other recommended literature based on which exams are prepared and taken as per Article 56, paragraph 3 of the Law on Higher Education of the Sarajevo Canton