



Course ID: H0DFH23	Course name: Electrochemical processes in nonaqueous media																										
Cycle: THIRD	Year: FIRST	Semester: II	ECTS credits: 10																								
Course status: ELECTIVE	Total course hours: 60 Lectures: 30 Laboratory: 30																										
Teaching participants:	Teachers and associates with expertise in the field to which the subject belongs																										
Prerequisite for enrollment:	-																										
Course aims:	Through this course, students acquire new knowledge about electrochemical laws in electrolytic media different from aqueous media and train for research work in areas where electrochemical laws and methods are applied to nonaqueous electrolytic media: aprotic solutions, molten salts and solid electrolytes.																										
Thematic course units:	Electrochemistry in aprotic electrolytic solutions: General properties of aprotic electrolytic solutions. Transport numbers of ions in aprotic solutions. Reference electrodes in aprotic solvents. Electrochemistry of salt solution: General properties of salt solution. Reference electrodes in salt solutions. Kinetics of electrode reactions in salt solutions. Obtaining metals from salt melts by electrolysis.																										
Learning outcomes:	Knowledge: Students will acquire knowledge about the kinetics and mechanism of electrode reactions in nonaqueous media. Skills: The student will be able to use and understand the kinetics and mechanisms of electrode reactions in nonaqueous media. Competencies: Application of acquired knowledge for the selection of appropriate electrochemical methods in the study of processes in nonaqueous media.																										
Teaching methodology:	Lectures (oral presentation and interactive classes) Laboratory exercises																										
Assessment methods and grading system¹:	<table border="1"><thead><tr><th colspan="4">Grading criteria</th></tr><tr><th></th><th>Criteria</th><th>Maximal score</th><th>Required score</th></tr></thead><tbody><tr><td>1.</td><td>Midterms</td><td>30</td><td>16,5</td></tr><tr><td>2.</td><td>Seminar paper</td><td>30</td><td>16,5</td></tr><tr><td>3.</td><td>Final exam</td><td>40</td><td>22</td></tr><tr><td></td><td>Total</td><td>100</td><td>55</td></tr></tbody></table>			Grading criteria					Criteria	Maximal score	Required score	1.	Midterms	30	16,5	2.	Seminar paper	30	16,5	3.	Final exam	40	22		Total	100	55
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¹The 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

	Note: Class activity is scored through student work on exercises.		
	Scores and grading		
	Score	Grade (BiH)	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>Supplementary literature:</p> <ol style="list-style-type: none"> 1. K. Izutsu, <i>Electrochemistry in Nonaqueous solutions</i>, Wiley, 2002. 2. D. Aurbach, <i>Nonaqueous electrochemistry</i>, Marcel Dekker, Inc, 1999. 3. Z. Galus, <i>Electrochemical Reactions in Nonaqueous and Mixed Solvents</i>, u <i>Advances in Electrochemical Science and Engineering</i> Volume 4, VCH, 1995. 4. H. Ohno, <i>Electrochemical Aspects of Ionic Liquids</i>, Wiley, 2005. 5. P. G. Bruce, <i>Solid State Electrochemistry (Chemistry of Solid State Material)</i>, Cambridge University Press, 1995. 6. J. O. Besenhard, <i>Handbook of Battery Materials</i>, Wiley, 1999. 7. T. Minami, <i>Solid-State Ionics for Batteries</i>, Springer, 2005. 		

²The 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