Course ID: HODFH18	**Course name: SELECTED TOPICS OF CATALYSIS**		
Cycle: THIRD	**Year: FIRST**	**Semester: I**	**ECTS credits: 7**
Course status: ELECTIVE		**Total course hours:** Lectures: 45 Laboratory: 15	
Teaching participants:	**Teachers and associates with expertise in the field to which the subject belongs**		
Prerequisite for enrollment:	-		
Course aims:	Acquiring knowledge about the principles of homogeneous and heterogeneous catalysis, getting acquainted with the most important catalytic systems and modern directions of catalysis.		
Thematic course units:	1. Catalytic systems. 2. Kinetics and mechanism of catalytic reactions. 3. Catalyst activity, selectivity and stability. 4. Holders of a catalyst, promoters and inhibitors. 5. Relationships between homogeneous and heterogeneous catalysis. 6. Electrocatalysis. 7. Photocatalysis. 8. Biocatalysis. 9. Electrochemical, spectroscopic, structural and microscopic methods of testing catalytic systems. 10. Catalytic processes important for industry, petrochemistry and environmental protection.		
Learning outcomes:	Knowledge: Acquired knowledge of the principles and scientific research achievements in the field of catalysis of chemical reactions. Skills: Independent scientific research work, selection and application of instrumental methods for testing catalytic systems. Competences: Application of acquired knowledge and skills in professional and specialist subjects in various fields of chemistry.		
Teaching methodology:	Lectures (oral presentation and interactive classes) Laboratory exercises (independent projects within which students will practically and theoretically process certain thematic units).		
Assessment methods and grading system[1]:	Grading criteria		
	Criteria	Maximal score	Required score
	1. Class attendance	5	3

[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.	Class activities	15	8
	3.	Midterms	40	22
	4.	Final exam	40	22
		Total	100	55
		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

Literature[2]:

Mandatory literature:

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Supplementary literature:

1. Original scientific papers.
2. J.E. House, *Principles of Chemical Kinetics*, 2nd ed., Elsevier, 2007.
3. M.R. Wright, *An Introduction to Chemical Kinetics*, John Wiley & Sons, Ltd, 2004.
4. T. Kovačić, B. Andričić, *Kataliza*, Kemijsko-tehnološki fakultet, Split, 2010.
5. I. Chorkendorf, J.W. Neimantsverdriet, *Concepts of Modern Catalysis and Kinetics*, WILEY-CCH, 2003.
6. J. Polaina, A.P., MacCabe, *Industrial Enzymes*, *Structure, Function and Applications*, Springer, 2007.

[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