Course ID: HFH366	**Course name: CHEMICAL KINETICS**		
Cycle: FIRST	**Year: THIRD**	**Semester: VI**	**ECTS credits: 3**
Course status: MANDATORY		**Total course hours:** Lectures: 30 Laboratory: 15	
Teaching participants:	**Teachers and associates with expertise in the field to which the subject belongs**		
Prerequisite for enrollment:	-		
Course aims:	Acquiring basic knowledge of the concepts and laws of chemical kinetics that will enable the understanding of the phenomenon of catalysis and the mechanisms of chemical reactions.		
Thematic course units:	1. Fundamental concepts of chemical kinetics. 2. The rate of reactions, reaction order and reaction molecularity. 3. Zero-order, first-order, second-order and nth-order reactions 4. Determination of reaction order. 5. The effect of temperature on the rate of chemical reactions. 6. Kinetic isotope effect. 7. Experimental methods and data analysis in chemical kinetics. 8. Complex reactions: reversible, consecutive and parallel reactions. 9. Steady state method. 10. Collision theory. 11. Transition state theory. 12. The kinetics of chemical reactions in liquids. 13. Chain reaction. 14. Photochemical reactions. The radiation-chemical reactions. 15. Kinetics of heterogeneous systems.		
Learning outcomes:	Knowledge: The student will be able to define the concepts of reaction order, reaction rate constant and molecularity, analyze the influence of various factors on the rate of chemical reactions and interpret the mechanism and kinetics of complex chemical reactions. Skills: The student will be able to calculate kinetic parameters using appropriate equations, interpret experimental and computational data. Competences: Application of various experimental techniques in testing the kinetics of chemical reactions.		
Teaching methodology:	Lectures (oral presentation and interactive classes) Laboratory exercises		

Assessment methods and grading system[1]:

Grading criteria			
	Criteria	Maximal score	Required score
1.	Class attendance	0	0
2.	Class activities	15	8
3.	Midterms	45	25
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:

1. Sabina Gojak-Salimović, *Kinetika i kataliza*, Prirodno-matematički fakultet, Sarajevo, 2017.

Supplementary literature:

1. James E. House, *Principles of Chemical Kinetics*, 2nd ed., Elsevier, 2007.
2. Margaret Robson Wright, *An Introduction to Chemical Kinetics*, John Wiley & Sons, Ltd, 2004.
3. Dragica Ovcin i dr., *Fizička hemija - zbirka zadataka*, Tehnološko-metalurški fakultet, Univerzitet u Beogradu, Beograd, 2004.

[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