CHEMICAL KINETICS

1	Course Title:	CHEMICAL KINETICS	
2	Course Code:	KIM4053	
3	Type of Course:	Optional	
4	Level of Course:	First Cycle	
5	Year of Study:	4	
6	Semester:	7	
7	ECTS Credits Allocated:	5.00	
8	Theoretical (hour/week):	3.00	
9	Practice (hour/week):	0.00	
10	Laboratory (hour/week):	0	
11	Prerequisites:	None	
12	Language:	Turkish	
13	Mode of Delivery:	Face to face	
14	Course Coordinator:	Prof. Dr. BEYHAN ERDEM	
15	Course Lecturers:		
16	Contact information of the Course Coordinator:	Prof. Dr. Beyhan Erdem gbeyhan@uludag.edu.tr 0 224 29 42 864 Bursa Uludağ Üniversitesi Fen-Edebiyat Fakültesi Kimya Bölümü 16059 Bursa	
17	Website:		
18	Objective of the Course:	The aim of the course is to provide understanding of the reaction rate, reaction kinetics and mechanisms, and to have enough information about the theories of collision and transition state.	
19	Contribution of the Course to Professional Development:	Understanding the basic topics of Chemical Kinetics course, associating with current issues and explaining.	
20	Learning Outcomes:		
		1	Enable to analysis of the reaction rate and order data and to relate to the subject.
		2	Identify and formulate and also solve the problems about the subject such as reaction rate constants, activation energy.
		3	Have knowledge about transition state theory and collision theory and collision characteristics of gases and apply these to the reactions.
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21	Course Content:		

Course Content:

Week	Theoretical	Practice
1	Reaction rate and rate equations	
2	Methods of reaction order determination	

3	Complex reactions	
4	Consecutive reactions	
5	Chain reactions	
6	Photochemical reactions	
7	The change of reaction rate with temperature	
8	Transition state theory in reaction kinetics	
9	Collision theory in reaction kinetics	
10	Repetition of previous issues	
11	Homogeneous catalysts	
12	Reaction mechanisms over homogeneous catalysts	
13	Heterogeneous catalysts	
14	Reaction mechanisms over homogeneous catalysts	

22	Textbooks, References and/or Other Materials:	1) Fizikokimya P. W. Atkins, Çeviri Editörleri: Salih Yıldız, Hamza Yılmaz, Esma Kılıç. Bilim Yayıncılık, 2014. 2) Fizikokimya II, Mustafa Cebe. Dora Yayınları, 2009.
23	Assesment	

TERM LEARNING ACTIVITIES	**NUMBER**	**WEIGHT**
Theoretical	1	60.00
Practicals/Labs		0
Self study and preperation		12
Homeworks		0
Projects		0
Field Studies		0
Midterm exams	1	2.00
Others		12
Final Exams	1	2.00
Total Work Load		
Total work load/ 30 hr		
ECTS Credit of the Course		

Activites	Number	Duration (hour)	Total Work Load (hour)
Final Exam	1	3.00	42.00
Contribution of Term (Year) Learning Activities to	14	60.00	40.00
Contribution of Final Exam to Success Grade			60.00
Measurement and Evaluation Techniques Used in the	Test exam with at least 10 questions		

24	**ECTS / WORK LOAD TABLE**

25	**CONTRIBUTION OF LEARNING OUTCOMES TO PROGRAMME QUALIFICATIONS**															
	PQ1	**PQ2**	**PQ3**	**PQ4**	**PQ5**	**PQ6**	**PQ7**	**PQ8**	**PQ9**	**PQ10**	**PQ11**	**PQ12**	**PQ13**	**PQ14**	**PQ15**	**PQ16**
ÖK1	0	5	4	4	5	0	0	0	0	0	0	0	0	0	0	0
ÖK2	0	5	4	4	5	0	0	0	0	0	0	0	0	0	0	0
ÖK3	0	5	4	4	5	0	0	0	0	0	0	0	0	0	0	0

LO: Learning Objectives PQ: Program Qualifications

Contribution Level:	1 very low	2 low	3 Medium	4 High	5 Very High