

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:	<p>1) Fizikokimya P. W. Atkins, Çeviri Editörleri: Salih Yıldız, Hamza Yılmaz, Esma Kılıç. Bilim Yayıncılık, 2014.</p> <p>2) Fizikokimya II, Mustafa Cebe. Dora Yayınları, 2009.</p>
23	Assesment	
TERM LEARNING ACTIVITIES		NUMBER
		WEIGHT
Midterm Exam		1
Quiz		0
Home work-project		0
Final Exam		1
Total		2
Contribution of Term (Year) Learning Activities to Success Grade		40.00
Contribution of Final Exam to Success Grade		60.00
Total		100.00
Measurement and Evaluation Techniques Used in the Course		Test exam with at least 10 questions
24	ECTS / WORK LOAD TABLE	

Activites	Number	Duration (hour)	Total Work Load (hour)
Theoretical	14	3.00	42.00
Practicals/Labs	0	0.00	0.00
Self study and preperation	12	5.00	60.00
Homeworks	0	0.00	0.00
Projects	0	0.00	0.00
Field Studies	0	0.00	0.00
Midterm exams	1	2.00	2.00
Others	12	4.00	48.00
Final Exams	1	2.00	2.00
Total Work Load			154.00
Total work load/ 30 hr			5.13
ECTS Credit of the Course			5.00

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							