

OXIDATION AND REDUCTION REACTIONS IN INORGANIC CHEMISTRY

1	Course Title:	OXIDATION AND REDUCTION REACTIONS IN INORGANIC CHEMISTRY	
2	Course Code:	KIM5024	
3	Type of Course:	Optional	
4	Level of Course:	Second Cycle	
5	Year of Study:	1	
6	Semester:	2	
7	ECTS Credits Allocated:	6.00	
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:	Doç. Dr. SUAT AKSOY	
15	Course Lecturers:		
16	Contact information of the Course Coordinator:	Doç. Dr. M. Suat AKSOY msaksoy@uludag.edu.tr 0 224 29 41 740	
17	Website:		
18	Objective of the Course:	Oxidation and reduction reactions are important during complex formation and recovery of elements. In the metal industry, metal ions are reduced during the production. During complex formation, oxidation stages of metal ions varies. To investigate the change in oxidation step, the structures of complex compounds helps.	
19	Contribution of the Course to Professional Development:	The course contributes to professional development.	
20	Learning Outcomes:		
		1	The basic issues of redox reactions in inorganic chemistry will be understood.
		2	Acquired the ability to use information will be won.
		3	Redox reaction will be understood.
		4	The effect of the potential for complex formation will be understood.
		5	The issues of catalysis will be understood.
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21	Course Content:		
		Course Content:	
Week	Theoretical	Practice	
1	Extraction of elements: Elements extracted by reduction		
2	Extraction of elements: Elements extracted by oxidation		

3	Reduction potentials: Redox half-reactions	
4	Reduction potentials: Kinetic factors	
5	Redox stability in water: Reactions with water	
6	Redox stability in water: Disproportionation	
7	Redox stability in water: Oxidation by atmospheric oxygen	
8	The diagrammatic presentation of potential data: Latimer diagrams	
9	Repetition of previous lessons and midterm	
10	The diagrammatic presentation of potential data: Frost diagrams	
11	The diagrammatic presentation of potential data: pH dependence	
12	The effect of the potential for complex formation	
13	Catalysis	
14	Homogeneous and Heterogeneous catalysis	

22	Textbooks, References and/or Other Materials:	Shriver D.F., Atkins P.W. and Langford C.H. Inorganic Chemistry, second edition, 1994. Fred B. And Ralph G.P.; Mechanisms of Inorganic Reactions, Second Edition, Wiley, 1967. Cotton F.A., Wilkinson G., Gaus P.L., Basic Inorganic Chemistry, second edition, wiley, 1987.
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Activites		Number	Duration (hour)	Total Work Load (hour)
Theoretical	1	50.00	3.00	42.00
Practicals/Labs		0	0.00	0.00
Self study and cooperation	0	0.00	3.00	42.00
Homeworks		0	0.00	0.00
Projects	2	100.00	0.00	0.00
Field Studies		0	0.00	0.00
Success Grade Midterm exams		1	30.00	30.00
Others		0	0.00	0.00
Total Exams		100.00	60.00	60.00
Total Work Load				204.00
Course Total work load/ 30 hr				5.80
ECTS Credit of the Course				6.00

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	4	3	2	3	3	3	4	3	3	4	0	0	0	0	0	0
ÖK2	4	4	3	3	3	3	4	3	3	4	0	0	0	0	0	0
ÖK3	3	2	3	3	3	3	3	4	4	4	0	0	0	0	0	0
ÖK4	3	2	3	3	3	3	3	4	4	4	0	0	0	0	0	0

ÖK5	3	2	3	3	3	3	3	4	4	4	0	0	0	0	0	0
LO: Learning Objectives PQ: Program Qualifications																
Contrib ution Level:	1 very low		2 low		3 Medium			4 High			5 Very High					