

# ANALYSIS METHODS FOR WEAK ENERGY BONDS

1	Course Title:	ANALYSIS METHODS FOR WEAK ENERGY BONDS	
2	Course Code:	KIM5035	
3	Type of Course:	Optional	
4	Level of Course:	Second Cycle	
5	Year of Study:	1	
6	Semester:	1	
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:	-	
12	Language:	Turkish	
13	Mode of Delivery:	Face to face	
14	Course Coordinator:	Prof. Dr. ASIM OLGUN	
15	Course Lecturers:	-	
16	Contact information of the Course Coordinator:	asimolgun@uludag.edu.tr 0 224 29 41 727	
17	Website:		
18	Objective of the Course:	Basic physicochemical properties of chemical structures depend on hydrogen bonding as much as molecular structures. In this course, it is intended to make predictions on the different features when assets and strengths of hydrogen bonds identified	
19	Contribution of the Course to Professional Development:	Acquires the ability to interpret chemical structures theoretically.	
20	Learning Outcomes:		
		1	Learning hydrogen bonding concept and how the hydrogen bonding could be determined.;
		2	Defining the weak-energy interactions and learning the difference from hydrogen bonds.;
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21	Course Content:		
		<b>Course Content:</b>	
Week	Theoretical	Practice	
1	Chemical bonds		
2	Chemical bonds		
3	The definition of the weak energy interactions		
4	The definition of the weak energy interactions		

5	London forces	
6	Hydrogen bonding	
7	Hydrogen bonding	
8	Repetition of previous lessons and MIDTERM exam	
9	Dipole-dipole interactions	
10	Dipole-dipole interactions	
11	Dipole-dipole interactions	
12	Interactions of weak energy bonds	
13	Interactions of weak energy bonds	
14	Interactions of weak energy bonds	

22	Textbooks, References and/or Other Materials:	1. Dewar, M. J. S., The Molecular Orbital Theory of Organic Chemistry, Mc. Graw Hill, Newyork, 1979. 2. Martin Klessinger, Elektronen Structure Organisher Moleküle, Verlag Chemie, 1982. 3. Proble'mes de Chimie Physique, Atomistique of Liaison Chimique Masson & Cie, Paris, 1977. 4. Fonde'ments The'orique des Recherches des Reactions Inte'mole'culaires, CNRS, 1975
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23	Assesment	
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TERM LEARNING ACTIVITIES		NUMBER	WEIGHT		
Midterm Exam		1	40.00		
Activites		Number		Duration (hour)	Total Work Load (hour)
Final Exam/Theoretical		1	40.00	4.00	56.00
Total		2	40.00		
Practicals/Labs		0		0.00	0.00
Contribution of Term (Year) Learning Activities to Self study and preperation		1	40.00	3.00	42.00
Homeworks		6		9.00	54.00
Projects		0		0.00	0.00
Total		1	40.00		
Field Studies		0		0.00	0.00
Measurement and Evaluation Techniques Used in the Midterm exams		1	40.00	10.00	10.00
Others		0		0.00	0.00
Final Exams		1		10.00	10.00
Total Work Load					192.00
Total work load/ 30 hr					6.07
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	3	2	2	3	4	4	3	4	1	4	0	0	0	0	0	0
ÖK2	3	2	2	3	4	4	3	4	1	4	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							