

MOLECULAR SYMMETRY AND APPLICATIONS

1	Course Title:	MOLECULAR SYMMETRY AND APPLICATIONS	
2	Course Code:	KIM6027	
3	Type of Course:	Optional	
4	Level of Course:	Third 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:	None	
12	Language:	Turkish	
13	Mode of Delivery:	Face to face	
14	Course Coordinator:	Prof. Dr. RAHMIYE AYDIN	
15	Course Lecturers:		
16	Contact information of the Course Coordinator:	Uludağ Üniversitesi Fen-Edebiyat Fakültesi Kimya Bölümü, 16059, BURSA rahmiye@uludag.edu.tr Tel: 0 (224) 2941729	
17	Website:		
18	Objective of the Course:	To teach the subject of molecular symmetry and it is to apply on the bond theory and spectroscopy.	
19	Contribution of the Course to Professional Development:	It provides theoretical and practical knowledge in the field of molecular symmetry.	
20	Learning Outcomes:		
		1	Determines the symmetry elements of the compounds and the point groups.
		2	Comments the character tables.
		3	Applies the symmetry on the bond theory and spectroscopy.
		4	
		5	
		6	
		7	
		8	
		9	
		10	
21	Course Content:		
		Course Content:	
Week	Theoretical	Practice	
1	Symmetry Operations and Symmetry Elements		
2	Point Groups and Introduction to Group Theory		
3	Symmetry Representations and Character Tables		

4	Matrixes	
5	Equal-energy Impressions	
6	Chemical Bond Applications	
7	Chemical Bond Applications	
8	Molecular Movements	
9	Molecular Movements	
10	The repetition of the previous course and Midterm	
11	Electronic States and Selection Rules	
12	Electronic States and Selection Rules	
13	The Term Level Diagrams of Complexes and Ligand Field Transitions.	
14	The Term Level Diagrams of Complexes and Ligand Field Transitions.	

Activities			Number	Duration (hour)	Total Work Load (hour)
Mid-term Exam	1	35.00	40	3.00	42.00
Practicals/Labs			0	0.00	0.00
Home work project	1	5.00	44	2.00	28.00
Homeworks			2	10.00	20.00
Total Projects	3	100.00		0.00	0.00
Field Studies			0	0.00	0.00
Success Grade Midterm exams			1	40.00	40.00
Others			0	0.00	0.00
Total Final Exams		100.00		50.00	50.00
Total Work Load					220.00
Course Total work load/ 30 hr					6.00
24. ECTS CREDIT WORKLOAD TABLE					
ECTS Credit of the Course					6.00

LO: Learning Objectives **PQ: Program Qualifications**

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