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Code and	F <b>İZ547</b> (	) MOLECI	ILAR PHY	SICS								
Name:	Graduate	chool of Natu	ral and Appli	ed Sciences								
Detail:	Period:	2023-2024	Status:	Optional	Class: 1	Credits:	3-0-0-3	ECTS: 6	Language	Turkisł	1	
		NETDUCTO	D	-			C		CICTANT			
Title, Name ar	nd Surnam		K			fitle. Name a	and Surname	DURSE AS	515 I AN I			
1100) 110110 01	Phon	e: -					Phone	e:				
	Ema	il: -					Emai	l:				
Soc Student Da	ial Accour	t: -				Student I	ocial Accoun	t:				
Student Da			<i>m</i> 1	***						<i>c</i> .		
Lessons Weekhy	Mor	iday	Tuesday	We	dnesday	Thur	rsday	Document No  Rerry Publication Date  13.0 Revision No    0-0-3  ECTS: 6  Language: Turkish    COURSE ASSISTANT    d Surname:     Phone:     Email:     al Account:     and Time:     ay  Friday  Saturd    ointerpret the spectra of various molecul  Diatomic  Molecules    Jribitals and Bond Energies      m	rday			
Proaram:					-							
		6 1		o ti 111	, ,							
Rendering: Place:	Face-to	-face lessons	per week	3 It will be o	done on an h	iourly basis	S.					
Thee.					UL.							
Purpose:	Basic k	nowledge ab ic properties	out molecul	ar physics, vil vic molecular (	brational an systems and	ld rotationa the ability	al energies ( to interpre	of diatomi t the spect	c and polya ra of variou	itomic m us molec	olecules, ules	
	Duef				Systems and		Distantia	Mala and				
Material:	Spectros	r. Sevim Aky	uz, Molecula Molecular St	r Physics Lect tructure, 1964	ure notes; G k:	. Herzberg,	, Diatomic	c Molecul	es , 1979;	G.W. KII	ıg,	
Student												
Responsibility :	Doing	esearch befo	ore and after	class								
Weekly Lesson Plan	Week	Topic									Method	
	1	Molecular	Binds Bor	n Oppenheim	ıer yaklaşım	1					YY	
	2	Molecular Bonding Method, Valence Bonding Method, Molecular Orbitals and Bond Energies									YY	
	3	Hybrid Orbitals and Bond Angles, Molecular Pauli Principle									YY	
	4	Vibration and Rotational Motions in Molecules, Angular Momentum									YY	
	5	Electronic Structure of Diatomic Molecules and Vector Model ,									YY	
	6	Hartree Fock Approach, Constrained and Unconstrained Hartree Fock Hesaplamaları									YY	
	7	Harmonic Vibrator, Harmony Vibrator Y										
	8	obtaining molecular orbitals from atomic orbitals; LCAO/MO approximation, bond and Antibond <b>YY</b>										
	9	MIDTERM EXAM										
	10	Energy Levels and Self-functions of Hydrogen Molecule								YY		
	11	Obtaining Energy Levels and Eigenfunctions of Hydrogen Molecular Ion									YY	
	12	Franck - Condon Principle and Electronic Transitions in Diatomic Molecules							YY			
	13	Electronic Structure of Polyatomic Molecules, Hybrid Orbitals and Bond Forces								YY		
	14	Electronic	Spectroscopy	of Multielectro	on Molecules	and Electro	nics Band	Spectrun	n		YY	
			Method							Number	Weight	
Assessment and Evaluation		Exam	Face							1	% 50	
	Break	Quiz	-							-		
	Exam	Broject	-									
		FIOJECL	-							-	-	
	General	Face									% 5	
	Exam	1								0		
	1	Learns the basic concepts about the properties, movements and energy levels of molecules.										
	2	Learns the basic concepts of molecular bonding										
Course	3	Hand of dia	atomic and po	olyatomic mole	cules and	Have inform	nation about	their chro	nic placeme	nts and e	nergy	
Outcomes	4	Learns the electronic transitions of molecules and methods of calculating molecular energies										
	5	Improves the ability to solve physical problems of molecular physics subjects at a high level										
Course-Specif	ic Explar	ations:	ine ability to 3	pilysical p		norecular pli	., oreo oubjec	a at a mgll	10,01			
UE: Distance	Education	; YY: Face-to	-Face Educa	ation								

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	FIRAT UNIVERSITY	Publication Date	13.09.2021
		Revision Date	-
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