

QUANTUM CHEMISTRY

1	Course Title:	QUANTUM CHEMISTRY	
2	Course Code:	KIM3016	
3	Type of Course:	Optional	
4	Level of Course:	First Cycle	
5	Year of Study:	3	
6	Semester:	6	
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:	-	
12	Language:	English	
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 42863	
17	Website:		
18	Objective of the Course:	The goal of the course is to provide students with a fundamental understanding of the quantum chemical description of atoms and molecules. Particular emphasis is placed on the understanding of properties of light and interaction of light and matter, together with the theoretical basis for optical spectroscopy.	
19	Contribution of the Course to Professional Development:	Students learn how to use quantum chemistry to understand, model, and predict molecular properties and their reactions, properties of nanometer materials, and reactions and processes taking place in biological systems.	
20	Learning Outcomes:		
		1	Learn the basic postulates of quantum mechanics
		2	Apply the postulates of quantum mechanics to simple systems of chemical interest, such as the particle-in-a-box, harmonic oscillator, rigid ro-tor, and hydrogenic atoms
		3	Explain how the absorption of light can promote a transition from an energy stat to another energy state, and describe in words, graphs, and equations the relation between an absorption spectrum and energy levels in an atom or molecule.
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21	Course Content:		
		Course Content:	
Week	Theoretical	Practice	

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