Fizik Bölümü / PHYSICS /										
Course Code	Course Name			Teorical	Practice	Laboratory	Credits	ECTS		
FZK-4036	Quantum Mechanics II			3.00	0.00	0.00	3.00	6.00		
Course Detail										
Course Language	: Turkish									
Qualification Degree	: Bachelor									
Course Type	: Optional									
Preconditions	: Not									
Objectives of the Course	bjectives of the Course : Angular Momentum, The Schrodinger Equation in Three Dimension, Hydrogen Atom, The Interaction of Charged Particle with the Electromagnetic Representation of Operators, Spin, The Interaction of Charged Particles with the Electromagnetic Field, Time-Independent Perturbation Theory, Idea Particles									
Course Contents	Three Dimensions a Well The Interaction with an Electromagn states of Spin 1/2,Ti Angular Momentum	and the Hydrogen Atom, The of Charged Particles with the netic Field,Midterm exam Ma he Intrinsic Magnetic Mome	ommutation Relations,Raising e Central Potential,The Hydro ne Electromagnetic Field, Cla atrix Representations of Angu nt of Spin 1/2 Particles, Para perators, Matrices in Quantur egenerate Eigen states	gen Atom, The Energy assical Electrodynamics ular Momentum Operat magnetic Resonance A	Spectrum,The s,The Schrodi ors, General F addition of Two	Free Particle, F nger Equation fo Relations in Matri o Spins, The Add	article in an r an Electron x Mechanics lition of Spin	Infinite Spherion in Interaction Spin, Eigen 1/2 and Orbit		
Recommended or Requir Reading	Menlo Park CA,198	5) The Principles of Quantu	n (John Wiley and Sons,New m Mechanics, P.A.M.Dirac, ( -Wesley,Reading MA,1965)				, -	_		
Planned Learning Activition Teaching Methods	es and : Midterm exam, Hon	nework, Final exam								
Recommended Optional Programme Components	_	ndamental physics courses	is important.							
Instructors	: Prof. Dr. Ayşe Küçü	karslan								
Instructor's Assistants	: -									
Presentation Of Course	: Face to face									
Course Outcomes										
Upon the completion of this cours	e a student :									
1 Apply the operator notation in so	plutions									
2 Explain general formalism of qu	uantum mechanics									

**Teorical** 

**Practice** 

**Laboratory Credits** 

**ECTS** 

Preconditions

Course Code

Course Name

	Teorical	Practice	Laboratory	Preparation Info	<b>Teaching Methods</b>
1.Week	*Angular Momentum, The Angular Momentum Commutation Relations				*Lecture, Problem solving, Homework
2.Week	*Angular Momentum, The Angular Momentum Commutation Relations				*Lecture, Problem solving, Homework
3.Week	*The Schrodinger Equation in Three Dimensions and the Hydrogen Atom, The Central Potential				*Lecture, Problem solving, Homework
4.Week	*The Hydrogen Atom, The Energy Spectrum				*Lecture, Problem solving, Homework
5.Week	*The Free Particle, Particle in an Infinite Spherical Well				*Lecture, Problem solving, Homework
6.Week	*The Interaction of Charged Particles with the Electromagnetic Field, Classical Electrodynamics				*Lecture, Problem solving, Homework
7.Week	*The Schrodinger Equation for an Electron in Interaction with an Electromagnetic Field				*Lecture, Problem solving, Homework
8.Week	*The Schrodinger Equation for an Electron in Interaction with an Electromagnetic Field				*Lecture, Problem solving, Homework
9.Week	*Matrix Representations of Angular Momentum Operators, General Relations in Matrix Mechanics				*Lecture, Problem solving, Homework
10.Week	*Spin, Eigen states of Spin 1/2				*Lecture, Problem solving, Homework
11.Week	*The Intrinsic Magnetic Moment of Spin 1/2 Particles, Paramagnetic Resonance				*Lecture, Problem solving, Homework
12.Week	*Addition of Two Spins, The Addition of Spin 1/2 and Orbital Angular Momentum				*Lecture, Problem solving, Homework
13.Week	*Matrix Representation of Operators, Matrices in Quantum Mechanics				*Lecture, Problem solving, Homework
14.Week	*Degenerate perturbation theory, Stark effect				*Lecture, Problem solving, Homework

Assesment Methods %

1 Mid Term Exam 1:40.000

2 Final : 60.000

Activities	Count	Time(Hour)	Sum of Workload
Vize	1	2.00	2.00
Final	1	2.00	2.00
Attending lectures	14	4.00	56.00
Individual study before lecture	14	3.00	42.00
Individual study after lecture	14	4.00	56.00
Preparation for midterm	1	10.00	10.00
Preparation for final	1	20.00	20.00
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Total: 188.00

Sum of Workload / 30 ( Hour ): 6

ECTS: 6.00

Program And OutcomeRelation

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L.O. 1		4	3	3	4	5	4	5	5	4	3	4	4	3	4	4	0	0	0	0	0	0	0	0	0
L.O. 2	2	4	4	3	3	4	3	4	4	3	4	3	4	3	4	5	0	0	0	0	0	0	0	0	0
L.O. 3	3	5	4	4	4	5	4	5	5	5	4	4	5	4	5	5	0	0	0	0	0	0	0	0	0
4	<b>4</b>																				r				

Ders/Program Çıktıları İlişkisi

P.O. ′	P.O. 2	P.O. 3	P.O. 4	P.O. 5	P.O. 6	P.O. 7	P.O. 8	P.O. 9	P.O. 10	P.O. 11	P.O. 12	P.O. 13	P.O. 14	P.O. 15	P.O. 16	P.O. 17	P.O. 18	P.O. 19	P.O. 20	P.O. 21	P.O. 22	P.O. 23	P.O. 24	P.O. 2
5	4	3	4	3	3	4	4	3	4	4	3	3	4	5	0	0	0	0	0	0	0	0	0	0
4																								<b>▶</b>