	ADVAN	CED A	TOMICPHYSICS I						
1	Course Title:	ADVANCED ATOMICPHYSICS I							
2	Course Code:	FZK5107							
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:	There is no course prerequisite							
12	Language:	Turkish							
13	Mode of Delivery:	Face to f	face						
14	Course Coordinator:	Prof. Dr. Hüseyin Ovalıoğlu							
15	Course Lecturers:	Dr. Öğr. Üyesi Handan Engin KIRIMLI,Dr. Öğr. Üyesi Cengiz AKAY, Prof. Dr. Ahmet PEKSÖZ							
16	Contact information of the Course Coordinator:	Doç. Dr. Hüseyin OVALIOĞLU E-mail: ovali@uludag.edu.tr İş Tel: 0 224 29 41 691 Adres: Bursa Uludağ Üniversitesi Fen Edebiyat Fakültesi Fizik Bölümü, 16059 Görükle Kampüsü BURSA							
17	Website:								
18	Objective of the Course:	Reminding of the basic concepts of atomic physics and giving their applications in atomic physics.							
19	Contribution of the Course to Professional Development:	Reminding of the basic concepts of atomic physics and giving their applications in atomic physics.							
20	Learning Outcomes:								
		1	Learn about the causes of the ultra-fine structure in the energy levels of atoms;						
		2	Gains knowledge of the methods in which ultra fine structure separations are examined;						
		3	Learns the physical parameters required in the analysis of spectrums and has the ability to obtain extreme fine structure constants as a result of analysis.						
		4	Learns the interaction of atoms with the electromagnetic field;						
		5							
		6							
		7							
		8							
		9							
		10							
21	Course Content:								
10/0-1	Theoretical	Co	ourse Content:						
VVeek	Theoretical	ackbody	Practice						
	Atomic nature of matter, electron, black	ackoody							

2	Photoel			X-ray	s and (	Comp	ton														
3	Stern-G momen and the	tum an	nd spin	, De E	Broglie		hesis														
4	Waves uncerta																				
5	Single e equatio	and \$	Schröd	inger																	
6	Fine str	ucture	, extrei	me fin	e struc	ture															
7	Atom's interaction with the external electric and magnetic field																				
8	Two-electron atoms and the Schrödinger equation																				
9	Multi-el	ectron	atoms																		
10	Centrip	etal fie	ld appi	roach																	
11	Periodio	c syste	m of e	lemer	its			Т													
12	Interaction of Multi-electron Atoms with the electromagnetic field																				
13	X-ray s																				
14	Perturb	ation a	nd its a	applic	ations																
22		Textbooks, References and/or Other Materials:									1. Raymond A. Serway, John W., (1995). "Fen ve Mühendislik için Fizik", Palme Yayıncılık										
Activites							_	Number				Duration (hour)			Total Work Load (hour)						
Theore	tical							Τ	14				3.00			42.00					
Practica	als/Labs								14			2.00			28.00						
<b>SER M</b> t		Gefet	Kigles	\$		١	UMBE	E  W	МЕЮНТ				3.00			42.00					
Homew	vorks								14			5.00			70.00						
Project	S					(	)		0.00				0.00			0.00					
Field S									0						0.00						
Midtern	n exams	, <del>-</del>						6	60.00						2.00						
Others									0						0.00						
Final Exams									40.00						2.00						
Contribution of Term (Year) Learning Activities to Total Work Load								- 121						186.00							
Contribution of Finanticam to Success Grade								6	0.00						6.20						
	Credit of														6.00						
Course					-		ed in th	ur	ndersta		v much				ear to t this cou	ırse					
24	ECTS	/ WO	RK L	OAD	TAB	LE															
25		CONTRIBUTION OF LEARNING OUTCOMES TO PROGRAMME QUALIFICATIONS																			
	PQ	1 PQ2	PQ3	PQ4	PQ5	PQ6	PQ7	PQ	B PQ9	PQ1	PQ11	PQ12	PQ1	PQ14	PQ15	PQ16					
ÖK1	5	5	0	0	5	0	0	0	0	<b>0</b>	0	0	<b>3</b> 0	0	0	0					
									-			-									
ÖK2	5	5	5	5	5	0	0	0	0	0	0	0	0	0	0	0					

ÖK3	0	0	0	0	0	5	5	5	0	0	0	0	0	0	0	0
ÖK4	0	0			5				-	0	0	0		0	0	0
LO: Learning Objectives PQ: Program Qualifications																
Contrib 1 very low ution Level:				2 Iow		3	Medi	um	4 High			5 Very High				