AYDIN ADNAN MENDERES UNIVERSITY
COURSE INFORMATION FORM

Course Title	Relativistic Particle Theory								
Course Code	FZK609		Couse Level	Third Cycle (Doctorate Degree)					
ECTS Credit	7	Workload	175 *(Hours)*	Theory	3	Practice	0	Laboratory	0
Objectives of the Course	To Introduce the physics of atomic and subatomic particles								
Course Content	Experimental Methods of Particle Physics, Subatomic Zoo, Conservation Laws, Interaction Between Particles, Standard Model								
Work Placement	N/A								
Planned Learning Activities and Teaching Methods	Explanation (Presentation), Discussion, Individual Study, Problem Solving								
Name of Lecturer(s)									

Assessment Methods and Criteria		
Method	Quantity	Percentage (%)
Midterm Examination	1	20
Final Examination	1	30
Quiz	2	8
Attending Lectures	14	28
Assignment	14	14

Recommended or Required Reading	
1	Introduction to Elemantary Particles (Yazar: D. Griffiths)
2	Subatomic Physics, Ernest M Henley, Alejandro Garcia

Week	Weekly Detailed Course Contents	
1	Theoretical	A Short Review of Special Relativity
2	Theoretical	Feynman Diagrams
3	Theoretical	Experimental Methods (Accelerators, Detectors)
4	Theoretical	Subatomic Zoo
5	Theoretical	The Structure of Subatomic Particles
6	Theoretical	Conservation Laws
7	Theoretical	Angular Momentum and Isospin
8	Theoretical	Parity, Charge
9	Theoretical	Parity-Charge and Time
10	Theoretical	Electromagnetic Interaction
11	Theoretical	Weak Interaction
12	Theoretical	Introduction to Gauge Theories
13	Theoretical	The Electro Weak Theory of the Standard Model
14	Theoretical	Strong Interactions
15	Theoretical	Final Examination

Workload Calculation				
Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	3	3	84
Assignment	12	4	0	48
Midterm Examination	1	15	4	19
Final Examination	1	20	4	24
			Total Workload (Hours)	175
			[Total Workload (Hours) / 25*] = **ECTS**	7
**25 hour workload is accepted as 1 ECTS*				

Learning Outcomes	
1	Student should have an idea about the experimental setups of particle physics
2	Student should know the symmetry properties of subatomic particles
3	Student should know the interactions between elementary particles
4	Student should have an idea about gauge theories
5	Student should have an idea about the standard model

Programme Outcomes *(Physics Doctorate)*	
1	
2	
3	
4	
5	
6	
7	
8	

Contribution of Learning Outcomes to Programme Outcomes *1:Very Low, 2:Low, 3:Medium, 4:High, 5:Very High*

	L1	L2	L3	L4	L5
P1	4	4	4	5	4
P2	4	3	5	4	4
P3	3	4	4	3	3
P4	4	4	4	3	4
P5	5	4	5	4	4
P6	4	3	3	4	4
P7	4	3	4	4	3
P8	2	4	4	5	4