

Course Code	Course Name	Teorical	Practice	Laboratory	Credits	ECTS
FZK-4008	Particle Pyhsics 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	: To understand and analyze the laws of nature					
Course Contents	: Basic information is given to physics students about elementary particles and modern physics. Related topics are discussed and linked to their professional knowledge.					
Recommended or Required Reading	: David Griffiths, Introduction to Elementary Particles, WILEY-VCH Verlag, 2008.					
Planned Learning Activities and Teaching Methods	: Oral lectures with interactive discussions, homeworks, applications and pratice.					
Recommended Optional Programme Components	: -					
Instructors	: Prof. Dr. Ayşe Küçükarslan					
Instructor's Assistants	: -					
Presentation Of Course	: Face to face					

Course Outcomes

Upon the completion of this course a student :

- 1 To know the fundamental particles and their properties
- 2 To solve and discuss the relativistic Dirac equation
- 3 To learn Feynman diagram technique.
- 4 To learn particle reaction precess and calculations.

Preconditions

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Weekly Contents

	Teorical	Practice	Laboratory	Preparation Info	Teaching Methods
1.Week	*Dirac Equation and Feynman Rules for QED				
2.Week	*Dirac Equation and Feynman Rules for QED				
3.Week	*Some Reactions and Their Amplitude Calculations				
4.Week	*Some Reactions and Their Amplitude Calculations				
5.Week	*Quantum Chromodynamics				
6.Week	*Quantum Chromodynamics				
7.Week	*Weak Interactions				
8.Week	*Weak Interactions				
9.Week	*Gauge Theory				
10.Week	*Gauge Theory				
11.Week	*Gauge Theory				
12.Week	*Spontaneous Symmetry Breaking				
13.Week	*Neutrino Oscillations				
14.Week	*Grand Unified Theory				

Assesment Methods %

1 Vize : 40.000

3 Final : 60.000

ECTS Workload

Activities	Count	Time(Hour)	Sum of Workload
Vize	1	3.00	3.00
Final	1	3.00	3.00
Preparation for midterm	7	3.00	21.00
Preparation for final	7	3.00	21.00

