AYDIN ADNAN MENDERES UNIVERSITY
COURSE INFORMATION FORM

Course Title	Electromagnetic Theory								
Course Code	FZK604		Couse Level	Third Cycle (Doctorate Degree)					
ECTS Credit	7	Workload	180 *(Hours)*	Theory	3	Practice	0	Laboratory	0
Objectives of the Course	To teach the fundamentals of classical electrodynamics and its applications.								
Course Content	Fundamental rules of electrostatics, the fundamental laws of magnetism, Green's function and its applications, relativistic fields.								
Work Placement									
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	15
Final Examination	1	60
Quiz	2	5
Attending Lectures	14	10
Assignment	8	10

Recommended or Required Reading	
1	Classical Electrodynamics, John David Jackson
2	Classical Electromagnetic radiation, Jerry B. Marion
3	Introduction to electrodynamics, D.J.Griffiths
4	Classical Electrodynamics, W. Greiner

Week	Weekly Detailed Course Contents	
1	Theoretical	Magneostatics and Faraday's law.
2	Theoretical	Quasi-Static Fields.
3	Theoretical	Maxwell's Equations and Macroscopic Electromagnetism.
4	Theoretical	Conservation Laws.
5	Theoretical	Plane Electromagnetic Waves and Wave Propogation.
6	Theoretical	Radiating Systems and Multi-Pole Systems.
7	Theoretical	Scattering and Diffraction.
8	Intermediate Exam	Midterm exam
9	Theoretical	Dynamics of Relativistic Particles and Electromagnetic Fields.
10	Theoretical	Dynamics of Relativistic Particles and Electromagnetic Fields
11	Theoretical	Collisions, Energy Loss.
12	Theoretical	Collisions of Charged Particles.
13	Theoretical	Cherenkov and Transition Radiation.
14	Theoretical	Radiation of Moving Particles.
15	Final Exam	Final Exam

Workload Calculation				
Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	5	3	112
Assignment	8	2	2	32
Quiz	2	3	1	8
Midterm Examination	1	9	5	14

Final Examination	1	9	5	14
			Total Workload (Hours)	180
			[Total Workload (Hours) / 25*] = **ECTS**	7
**25 hour workload is accepted as 1 ECTS*				

Learning Outcomes	
1	To learn the fundamental laws of electrostatics and applying them to the problems.
2	To learn the fundamental laws of magnetism and apply them to the problems.
3	Analyzing the Green’s function and to apply it to the problems.
4	To learn the plane electromagnetic waves.
5	To be able to examine the radiating systems.

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	5	4	4
P2	4	5	4	5	4
P3	3	4	4	4	3
P4	4	3	3	5	3
P5	4	4	3	4	4
P6	3	5	4	3	3
P7	4	5	4	3	5
P8	5	2	3	3	3