ELECTROMAGNETICTHEORY

1	Course Title:	ELECTROMAGNETICTHEORY	
2	Course Code:	FZK5402	
3	Type of Course:	Optional	
4	Level of Course:	Second Cycle	
5	Year of Study:	1	
6	Semester:	2	
7	ECTS Credits Allocated:	7.00	
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 face	
14	Course Coordinator:	Prof. Dr. İLHAN TAPAN	
15	Course Lecturers:	Prof. Dr. Emin N. ÖZMUTLU, Doç. Dr. İlker KÜÇÜK	
16	Contact information of the Course Coordinator:	Prof. Dr. Emin N. ÖZMUTLU E-mail: ozmutlu@uludag.edu.tr İş Tel:(0224)2941693 Adres: UÜ Fen Edebiyat Fakültesi, Fizik Bölümü, 16059 Görükle Kampusü, Bursa	
17	Website:		
18	Objective of the Course:	The aim of this course make students to remember the knowledge which they have learnt in undergraduate electromagnetism courses and add on some new advenced subjects. So the objective is to give students the ability to solve the classical electromagnetism problems which they may come across during their research activities.	
19	Contribution of the Course to Professional Development:		
20	Learning Outcomes:		
		1	Completes his knowledge on classical electromagnetism.
		2	Learns the necessary mathematics for physical research fields.
		3	Learns how to use the theoretical knowledge the solve the practical problems.
		4	Understands the basic concepts of special relativity theory.
		5	Gains the ability of solving problems about electromagnetic waves.
		6	Learns the basic concepts of electromagnetic radiation.
		7	
		8	
		9	
		10	
21	Course Content:		

Course Content:

Week	Theoretical	Practice
1	Vector analysis.	

2	Electrostatics.	
3	Conductors.	
4	Laplace equation.	
5	Solutions of Laplece equation.	
6	Dielectrics.	
7	Electric current.	
8	Magnetism in matter.	
9	Magnetism in matter (continued).	
10	Optics and electromagnetism.	
11	Wave guides.	
12	Transmission lines.	
13	Electromagnetic radiation.	
14	Special relativity theory.	

22	Textbooks, References and/or Other Materials:	1.C.A. Coulson, T.J.M. Boyd (1979), “Electricity”, Longman. 2.G.L. Pollack, D.R. Stump (2002), “Electromagnetism”, Addison-Wesley Pub. Co. 3.J.R. Reitz, F.J. Milford (1969), “Foundations of Electromagnetic Theory”, Addison-Wesley Pub. Co.

24 ECTS / WORK LOAD TABLE

Activites	Number	Duration (hour)	Total Work Load (hour)
Theoretical	14	3.00	42.00
Practicals/Labs	0	0.00	0.00
Self study and preperation	14	5.00	70.00
Homeworks	14	5.00	70.00
Projects	0	0.00	0.00
Field Studies	0	0.00	0.00
Midterm exams	0	0.00	0.00
Others	14	6.00	84.00
Final Exams	1	2.00	2.00
Total Work Load			268.00
Total work load/ 30 hr			8.93
ECTS Credit of the Course			7.00

25	**CONTRIBUTION OF LEARNING OUTCOMES TO PROGRAMME QUALIFICATIONS**															
	PQ1	**PQ2**	**PQ3**	**PQ4**	**PQ5**	**PQ6**	**PQ7**	**PQ8**	**PQ9**	**PQ10**	**PQ11**	**PQ12**	**PQ13**	**PQ14**	**PQ15**	**PQ16**
ÖK1	0	5	4	0	4	0	3	0	0	0	3	0	0	0	0	0
ÖK2	0	4	5	0	5	0	3	0	0	0	3	0	0	0	0	0
ÖK3	0	5	4	0	4	0	3	0	0	0	3	0	0	0	0	0
ÖK4	0	4	3	0	3	0	3	0	0	0	3	0	0	0	0	0

ÖK5	0	5	4	0	4	0	3	0	0	0	3	0	0	0	0	0
ÖK6	0	5	4	0	4	0	3	0	0	0	3	0	0	0	0	0

LO: Learning Objectives PQ: Program Qualifications

Contribution Level:	**1 very low**	**2 low**	**3 Medium**	**4 High**	**5 Very High**