OPTICAL FIBER COMMUNICATION SYSTEMS										
1	Course Title:	OPTICA	- FIBER COMMUNICATION SYSTEMS							
2	Course Code:	EEM440	6							
3	Type of Course:	Optional								
4	Level of Course:	First Cyc	le							
5	Year of Study:	4								
6	Semester:	8								
7	ECTS Credits Allocated:	4.00								
8	Theoretical (hour/week):	3.00								
9	Practice (hour/week):	0.00								
10	Laboratory (hour/week):	0								
11	Prerequisites:	-								
12	Language:	Turkish								
13	Mode of Delivery:	Face to f	ace							
14	Course Coordinator:	Prof. Dr.	GÜNEŞ YILMAZ							
15	Course Lecturers:	Yrd. Doç. Dr. Sait Eser KARLIK								
16	Contact information of the Course Coordinator:	E-posta:gunesy@uludag.edu.tr Tel: (224) 294 20 16 Adres: Elektronik Mühendisliği Bölümü 5. Kat, No:532								
17	Website:									
18	Objective of the Course:	To inform students about optical fiber communication systems including various blocks of light emitters, amplifiers and photodetectors								
19	Contribution of the Course to Professional Development:									
20	Learning Outcomes:									
		1	To have knowledge about the structure and transmission characteristics of optical fiber communication systems							
		2	Ability to determine basic problems in optical fiber communication systems							
		3	To be able to solve basic problems in optical fiber communication systems							
		4	To know the structure and characteristic parameters of light emitters and photodetectors used in these systems							
		5	To be able to analyze the receiver performance							
		6	To make use of line-coding methods and performance analysis techniques used in digital transmission systems							
		7	To be familiar with coherent communication systems							
		8								
		9								
		10								
21	Course Content:									
	Course Content:									
Week	Theoretical		Practice							
1	Introduction to optical fiber communi systems, the mode theory in optical waveguides, modes propagating in t fiber	cation he optical								

2	Attenuation in the optical fiber								
3	Dispersion in the optical fiber								
4	Design optimization in the single-mod light emitters	de fiber,							
5	Launching the light to the optical fibe coupling	r,							
6	Photodetectors, operating principles optical receiver, performance analysi digital receiver	of the s in the							
7	Digital transmission systems: point-to links, line-coding	p-point							
8	Midterm Exam + General Review								
9	Digital transmission systems: eye dia the effect of noise on system perform	igrams, iance							
10	Coherent communication systems- Homodyne and heterodyne detection semiconductor laser requirements, polarization control	l,							
11	Coherent communication systems – modulation methods								
12	Advanced techniques and systems in communication - WDM and local area networks	n optical a							
13	Advanced techniques and systems in communication - optical amplifiers an photonic switching	n optical Id							
Activit	tes			Number	Duration (hour)	Total Work Load (hour)			
Theore	Materials:		M	qGraw-Hill, 2010.	3.00	42.00			
Practic	als/Labs		2	0	0.00	0.00			
Self stu	dy and preperation		3	Aptical Fiber Commu	nications: Principles	56.60 ^{Practice} ,			
Homew	vorks		<u>ر</u>	0	0.00	0.00			
Project	8			0	0.00	0.00			
Field S	tudies			0	0.00	0.00			
HERIA	LEARNING ACTIVITIES	NUMBE	W	ÊIGHT	20.00	40.00			
Others				0	0.00	0.00			
Finare	n Exam Xams	2	5	0,00	27.00	27.00			
Total V	Vork Load					165.00			
Home w	Kork 628/850 hr	0	0.	00		5.50			
ECTS	Credit of the Course					4.00			
Total		3	1(0.00					
Contrib Succes	oution of Term (Year) Learning Activitiess Grade	es to	50.00						
Contrib	oution of Final Exam to Success Grade	9	50.00						
Total			100.00						
Measu Course	rement and Evaluation Techniques Us	sed in the							
24	ECTS / WORK LOAD TABLE								

25	CONTRIBUTION OF LEARNING OUTCOMES TO PROGRAMME QUALIFICATIONS															
	PQ1	PQ2	PQ3	PQ4	PQ5	PQ6	PQ7	PQ8	PQ9	PQ1 0	PQ11	PQ12	PQ1 3	PQ14	PQ15	PQ16
ÖK1	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK2	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK3	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK4	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK5	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0
ÖK6	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0
ÖK7	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LO: Learning Objectives PQ: Program Qualifications																
Contrib ution Level:	ontrib 1 very low ition evel:				2 low			3 Medium		4 High			5 Very High			