FUNDAMENTALS OF OPTICS AND PHONICS								
1	Course Title:	FUNDAM	IENTALS OF OPTICS AND PHONICS					
2	Course Code:	EEM4305						
3	Type of Course:	Optional						
4	Level of Course:	First Cycle						
5	Year of Study:	4						
6	Semester:	7						
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:	Doç. Dr. UMUT AYDEMİR						
15	Course Lecturers:	Doç. Dr. Şekip Esat HAYBER						
16	Contact information of the Course Coordinator:	umutaydemir@uludag.edu.tr, sehayber@uludag.edu.tr						
17	Website:							
18	Objective of the Course:	To introduce the reflections of photonics theory to optical communication and related technologies, to examine the application relationship of basic concepts and to give the realization of optical communication elements.						
19	Contribution of the Course to Professional Development:	<ol> <li>Defines the concept of Electro-Optical System.</li> <li>To understand the basic principles of optics.</li> <li>To learn the subjects of photonics.</li> </ol>						
20	Learning Outcomes:							
		1	Defines the concept of Electro-Optical System.					
		2	To understand the basic principles of optics.					
		3	To learn the subjects of photonics.					
		4						
		5						
		6						
		7						
		8						
		9						
		10						
21	Course Content:							
		Co	urse Content:					
Week	Theoretical		Practice					
1	Geometric optics: Fermat's principle							
2	Geometric optics: Reflection, refract Fresnel relations	ion and						
3	Geometric optics: Total internal refle fiber quiding	ction,						

			I	_O: L	.earr	ning C	)bjec	tives	s F	PQ: P	rogra	m Qu	alifica	tions	5		
OK3	C	J	U	U	U	U	4	U	U	U	U	U	U	U	U	U	U
ÖK2		<u></u>	т О	0	0	0	4	0	0		0	0	0	0	0		0
ÖK2			<u>۔</u> 4	0	0	0	0	0	0	0	0	0	0	0	0		0
ÖK1	4	1	0	4	0	0	0	0	0	0	<b>0</b>	0	0	<b>3</b> 0	0	0	0
	F	PQ1	PQ2	PQ3	PQ4	PQ5	PQ6	PQ7	PQ8	PQ9	PQ1	PQ11	PQ12	PQ1	PQ14	PQ15	PQ16
25 CONTRIBUTION OF LEARNING OUTCOMES TO PROGRAMME QUALIFICATIONS																	
ECTS	Credit	t of th	ne Co	urse												4.00	
Totalw														4.00			
Total W	tal Work Load												120.00				
Final E	xams								با				25.00			25.00	
Others	Iterm exams atribution of Final Exam to Succose Grado										25.00	0.00			0.00		
Field St Midtors	Id Studies							0			0.00	25.00			0.00		
Projects Z										0.00	0.00			0.00			
Homeworks						(	0			0.00			0.00				
Self study and preperation						U,				2.00			28.00				
Practicals/Labs						(	0			0.00			0.00				
Midterm Exam					40,	40140			3.00	3.00			Load (hour)				
Activit							an Qu Wi Le	Quimby R. S., Photonics and Lasers: An Introduction, Wiley, 2006. Lecture notes									
22	Textbooks, References and/or Other Materials:						CH Ca Sa	CHANG W. S. C., Principles of Lasers and Optics, Cambridge University Press,2005. Saleh, Bahaa E. A.Fundamentals of photonics, John Wiley									
14	Security in photonic systems																
13	Biological effects of optical radiation																
12	Lasers and their applications																
11	light with matter Absorption, spontaneous and forced radiation						n										
10	Photon characteristic of light, interaction of																
9	Midterm Exam Blackbody radiation																
8	Electromagnetic optics: Optical crystals -																
7	Electromagnetic optics: Introduction,																
6	Wave optics applications: Interferometric sensors.																
5	Wave optics: Interference and diffraction																
4	Geor	metri muni	c opti catior	cs: Op i	otical f	fiber											

Contrib	1 very low	2 low	3 Medium	4 High	5 Very High
ution					
Level:					