SATELLITE COMMUNICATION SYSTEMS

1	Course Title:	SATELLITE COMMUNICATION SYSTEMS	
2	Course Code:	EEM4220	
3	Type of Course:	Optional	
4	Level of Course:	First Cycle	
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 face	
14	Course Coordinator:	Prof. Dr. UĞUR YALÇIN	
15	Course Lecturers:	-	
16	Contact information of the Course Coordinator:	uyalcin@uludag.edu.tr, +90 (224) 2942023, Bursa Uludağ Üniversitesi, Mühendislik Fak., Elektrik-Elektronik Müh. Bölümü Görükle / BURSA	
17	Website:		
18	Objective of the Course:	The acquisition of basic knowledge about satellite communication systems and its technologies	
19	Contribution of the Course to Professional Development:	To be able to follow innovations and apply them in the field by using the competence of collecting information, researching and analyzing	
20	Learning Outcomes:		
		1	The gain of ability to model and solve satellite communication systems problems using theoretical knowledge
		2	Gain the ability to identify, model, and solve complex engineering problems on satellite communication systems; the ability to select and apply appropriate analysis and modelling methods for these problem
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21	Course Content:		

Course Content:

Week	Theoretical	Practice
1	The basic principles of satellite communications.	
2	The origin of the satellites.	
3	Communication via satellites.	

4	The characteristic features of communication satellites.	
5	The orbits of the satellites.	
6	Satellite networks.	
7	Satellite power systems.	
8	Satellite links.	
9	The basic principles of earth stations.	
10	Satellite link equations.	
11	Signal to noise ratio, interference ratio.	
12	Satellite communications networks and systems.	
13	Satellite communication systems, coding techniques.	
14	Mobile satellite systems and architecture.	

22	Textbooks, References and/or Other Materials:	1. Uydu ve Hücresel Mobil Haberleşme Sistemleri, 2. baskı, Birsen Yayınevi, 2002. 2. Satellite Communication Engineering, New York, USA: Marcel De. Incorporated, 2002. 3. Satellite Communications Systems, Techniques and Technology, John Wiley & Sons. Ltd., West Sussex, England, 2003. 4. Satellite Communications Systems, Mac. Pres Ltd., London, England, 1999. 5. Satellite Communications Systems & Technology,

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	2.00	28.00
Homeworks	0	0.00	0.00
Projects	0	0.00	0.00
Field Studies	0	0.00	0.00
Midterm exams	1	25.00	25.00
Others	0	0.00	0.00
Final Exams	1	25.00	25.00
Total Work Load			120.00
ECTS Credit of the Course			4.00

TERM LEARNING ACTIVITIES	**NUMBER**	**WEIGHT**
Quiz	0	0.00
Final Exam	1	60.00
Contribution of Term (Year) Learning Activities to		40.00
Contribution of Final Exam to Success Grade		60.00
Total work load/ 30 hr		4.00
Measurement and Evaluation Techniques Used in the	Midterm Exam and Final Exam	

24	**ECTS / WORK LOAD TABLE**

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	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

LO: Learning Objectives PQ: Program Qualifications

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