

COMMUNICATION AND NAVIGATION SYSTEMS

1	Course Title:	COMMUNICATION AND NAVIGATION SYSTEMS	
2	Course Code:	SHUZ203	
3	Type of Course:	Compulsory	
4	Level of Course:	Short Cycle	
5	Year of Study:	2	
6	Semester:	3	
7	ECTS Credits Allocated:	3.00	
8	Theoretical (hour/week):	1.00	
9	Practice (hour/week):	2.00	
10	Laboratory (hour/week):	0	
11	Prerequisites:		
12	Language:	Turkish	
13	Mode of Delivery:	Face to face	
14	Course Coordinator:	Öğr.Gör. SILA AVGAN	
15	Course Lecturers:	Meslek Yüksek Okulları Yönetim Kurullarının görevlendirdiği öğretim elemanları	
16	Contact information of the Course Coordinator:	silaavgan@uludag.edu.tr	
17	Website:		
18	Objective of the Course:	Different navigation systems used in the study and use of an air transport aircraft to examine the principles	
19	Contribution of the Course to Professional Development:	In this course, students will learn about the navigation systems used in the aviation field and their use in aircraft.	
20	Learning Outcomes:		
		1	Explain in which segment of the flight and in what purpose the air navigation systems are used
		2	Explain the necessity of the radio waves for data transmission
		3	Explain the working principles of the ground based air navigation systems and their operations
		4	Explain the working principles of aircraft based air navigation systems and their operations
		5	Tell the working principles and the usage in air navigation of satellite based air navigation systems.
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21	Course Content:		
		Course Content:	
Week	Theoretical	Practice	
1	General concepts of radio wave		
2	VDF, ADF systems		
3	VDF, ADF systems	VDF, ADF systems	

4	VOR, DME, VORTAC, ILS, MLS, RADAR Systems	VOR, DME, VORTAC, ILS, MLS, RADAR Systems		
5	VOR, DME, VORTAC, ILS, MLS, RADAR Systems	VOR, DME, VORTAC, ILS, MLS, RADAR Systems		
6	GPWS, IRS, GPS, GNSS, TCAS, FMS, R-NAV, CNS/ATM	GPWS, IRS, GPS, GNSS, TCAS, FMS, R-NAV, CNS/ATM		
7	Navigation methods	Navigation methods		
8	Map types, Distance between two points account, Direction estimation and map reading on the map	Map types, Distance between two points account, Direction estimation and map reading on the map		
9	Map types, Distance between two points account, Direction estimation and map reading on the map	Map types, Distance between two points account, Direction estimation and map reading on the map		
10	Map types, Distance between two points account, Direction estimation and map reading on the map	Map types, Distance between two points account, Direction estimation and map reading on the map		
11	Influence of the wind on the flight path and various speeds used in aviation	Influence of the wind on the flight path and various speeds used in aviation		
12	Influence of the wind on the flight path and various speeds used in aviation	Influence of the wind on the flight path and various speeds used in aviation		
13	Influence of the wind on the flight path and various speeds used in aviation	Influence of the wind on the flight path and various speeds used in aviation		
Activites		Number	Duration (hour)	Total Work Load (hour)
Theoretical		14	1.00	14.00
Practicals/Labs		14	2.00	28.00
Self study and preperation		23	2.00	46.00
Homeworks		0	0.00	0.00
Assesment		0	0.00	0.00
Field Studies		0	0.00	0.00
Midterm Exam		1	1.00	1.00
Others		0	0.00	0.00
Final Exams		1	1.00	1.00
Home work-project		0	0.00	0.00
Total Work Load				90.00
Total work load/ 30 hr		2	100.00	3.00
ECTS Credit of the Course				3.00
Success Grade				
Contribution of Final Exam to Success Grade		60.00		
Total		100.00		
Measurement and Evaluation Techniques Used in the Course		Measurement and evaluation is carried out according to the principles of Bursa Uludag University Associate and Undergraduate Education Regulation.		
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	5	4	5	1	5	5	5	5	5	0	0	0	0	0	0
ÖK2	5	5	4	5	1	5	5	5	5	5	0	0	0	0	0	0
ÖK3	5	5	5	5	1	5	5	5	5	5	0	0	0	0	0	0
ÖK4	5	5	1	5	1	5	5	5	5	5	0	0	0	0	0	0
ÖK5	5	5	1	5	1	5	5	5	5	5	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				