School of Business and Management Sciences / Aviation Management

2024 - 2025 Academic Year

NAVIGATION and COMMUNICATIONS SYSTEMS

Syllabus

Course Description					
Name	**Code**	**Semester**	**T+A Hour**	**Credit**	**ECTS**
NAVIGATION and COMMUNICATIONS SYSTEMS	HVY3212136	Spring Semester	3+0	3	5

Prerequisites Courses	
Recommended Elective Courses	
Language of Instruction	Turkish
Course Level	First Cycle (Bachelor's Degree)
Course Type	Required
Course Coordinator	Assist.Prof. Özlem İLDAY
Name of Lecturer(s)	Lect.Dr. Fuat Can ERERTEM
Assistant(s)	
Aim	To teach the navigation systems and operating principles used in aviation, to recognize the precision approach systems used on runways and to provide information about air traffic rules
Course Content	This course contains; Basic Concepts of Radio Waves,Classification of Radio Navigation Systems,VDF-ADF-VOR,DME-ILS-MLS,Radar Systems,Flight Management Systems,GPWS-TCAS-RNAV,GNSS,Global Positioning System (GPS),GLONASS-GALILEO-BEIDOU,Precision in Satellite-Based Navigation,CNS-ATM,Mapping in Navigation,Loran-Decca-Omega-IRS.

Course Learning Outcomes	**Teaching Methods**	**Assessment Methods**
1. Will be able to explain at what stages of flight navigation systems are used and for what purpose	16, 9	A
2. Will be able to explain the necessity of using radio waves for information transfer in navigation systems	16, 9	A

Teaching Methods	16: Question - Answer Technique, 9: Lecture Method
Assessment Methods	A: Traditional Written Exam

Lecture Schedule

Sequence	**Topics**	**Preliminary Preparation**
1	Basic Concepts of Radio Waves	
2	Classification of Radio Navigation Systems	
3	VDF-ADF-VOR	
4	DME-ILS-MLS	
5	Radar Systems	
6	Flight Management Systems	
7	GPWS-TCAS-RNAV	
8	GNSS	
9	Global Positioning System (GPS)	
10	GLONASS-GALILEO-BEIDOU	
11	Precision in Satellite-Based Navigation	
12	CNS-ATM	
13	Mapping in Navigation	
14	Loran-Decca-Omega-IRS	

Evaluation Methods	**Weight(%)**
Midterm Exam	40
General Exam	60

Resources
"Uçaklarda Haberleşme ve Seyrüsefer Sistemleri" (Communication and Navigation Systems), Satılmış Ürgün, Nobel Akademik Yayıncılık, 2022, ISBN: 9786254175176 ICAO - Annex 10 - Aeronautical Telecommunications