

SUSTAINABILITY MANAGEMENT IN AVIATION

Syllabus

Course Description					
Name	Code	Semester	T+A Hour	Credit	ECTS
SUSTAINABILITY MANAGEMENT IN AVIATION	HVY4115616	Fall Semester	3+0	3	5
Prerequisites Courses					
Recommended Elective Courses					
Language of Instruction	Turkish				
Course Level	First Cycle (Bachelor's Degree)				
Course Type	Elective				
Course Coordinator	Assist.Prof. Oğuz YILDIZ				
Name of Lecturer(s)	Assist.Prof. Oğuz YILDIZ				
Assistant(s)					
Aim	The aim of the course is not just to explain the principles of social, environmental, and economic sustainability, but also to demonstrate their practical application in the aviation industry. By establishing the relationship between sustainability and airline companies, airports, and ground handling companies, the course provides a comprehensive understanding of current sustainability practices.				
Course Content	This course contains; Introduction to the course and a contextual explanation of the underlying paradigm of sustainability, The concept of sustainability, its dimensions, and corporate sustainability, The historical evolution of the concept of sustainability, Millennium Development Goals and Sustainable Development Goals, The relationship between the Sustainable Development Goals and the aviation industry, The Green Deal and Airbus Fellofly Project, Carbon Offsetting and Reduction Scheme for International Aviation – CORSIA and Airport Carbon Accreditation Program, Explanation of the green building and green airport concepts, Green airport examples, Implementation of environmental management systems in aviation and sustainability reporting, Airbus ZEROe and Boeing 787-Dreamliner, Alternative fuels: biodiesel and its sources, Alternative fuels: Hydrogen, advantages, and disadvantages, Sustainability reports: THY (Turkish Airlines) and IGA (Istanbul Grand Airport)..				
Course Learning Outcomes			Teaching Methods	Assessment Methods	
1. Students will be able to explain sustainability and sustainable practices.1.1 Students will learn about the historical progression of sustainability.1.2 Students will be able to explain sustainability practices.1.3 Students will understand the triple-bottom-line approach concerning sustainability.2. Students will be able to explain the concept of sustainable development.2.1 Students will be able to explain the Millennium Development Goals.2.2 Students will be able to explain the Sustainable Development Goals.2.3 Students will be able to connect the Sustainable Development Goals with the aviation industry.3. Students will be able to explain the sustainability practices of airline and airport operations.3.1 Students will be able to explain the sustainability practices of airline operations regarding carbon emissions, noise, and waste management.3.2 Students will be able to explain the sustainability practices of airport operations within the framework of green building certifications.3.3 Students will be able to establish a relationship between the aviation industry and environmental management systems.4. Students will be able to explain sustainable aviation fuel and its sources.4.1 Students will be able to explain biodiesel fuel and its sources.4.2 Students will be able to explain synthetic fuels and their sources.4.3 Students will be able to connect carbon capture with the aviation industry.5. Students will be able to explain the sustainability practices of aviation authorities.5.1 Students will be able to explain the carbon offsetting and reduction scheme for international aviation.5.2 Students will be able to explain the implementation stages of the airport carbon accreditation program.5.3 Students will be able to explain sustainability reporting in aviation.				A, B, C	
Teaching Methods					
Assessment Methods			A: Traditional Written Exam, B: Short Answer Exam, C: Multiple-Choice Exam		
Lecture Schedule					
Sequence	Topics	Preliminary Preparation			
1	Introduction to the course and a contextual explanation of the underlying paradigm of sustainability.	Reading			
2	The concept of sustainability, its dimensions, and corporate sustainability	Reading			
3	The historical evolution of the concept of sustainability.	Reading			
4	Millennium Development Goals and Sustainable Development Goals	Reading			
5	The relationship between the Sustainable Development Goals and the aviation industry	Reading			
6	The Green Deal and Airbus Fellofly Project	Reading			
7	Carbon Offsetting and Reduction Scheme for International Aviation – CORSIA and Airport Carbon Accreditation Program	Reading			
8	Explanation of the green building and green airport concepts	Reading			
9	Green airport examples	Reading			
10	Implementation of environmental management systems in aviation and sustainability reporting	Reading			
11	Airbus ZEROe and Boeing 787-Dreamliner	Reading			
12	Alternative fuels: biodiesel and its sources.	Reading			
13	Alternative fuels: Hydrogen, advantages, and disadvantages	Reading			
14	Sustainability reports: THY (Turkish Airlines) and IGA (Istanbul Grand Airport).	Reading			
Evaluation Methods			Weight(%)		
(Midterm Exam) Mixed type exam (essay questions, fill in the blanks, and multiple choices)			40		
Midterm Exam			40		
(General Exam) Mixed type exam (essay questions, fill in the blanks, and multiple choice questions)			60		
General Exam			60		

Resources

1. Thomas, C., Raper, D., Maughan, J., Upham, P., (2013). Towards Sustainable Aviation, Earthscan Publications.
2. Judith L. Walls, J.W., & Wittmer, A., (2022). Sustainable Aviation: A Management Perspective, Springer Nature Switzerland
3. EUROCONTROL <https://www.eurocontrol.int/publication/eurocontrol-aviation-sustainability-briefing-1> to 9
4. United Nations Sustainable Development Goals, <https://sdgs.un.org/goals>
5. Kilbourne, W.E. (2004). Sustainable communication and the dominant social paradigm: can they be integrated? Marketing Theory, 4(3), 187-208
6. ICAO, CORSIA, <https://www.icao.int/environmental-protection/CORSIA/Pages/default.aspx>
7. Airport Carbon Accreditation, 7 levels of accreditation, <https://www.airportcarbonaccreditation.org/about/7-levels-of-accreditation/>