



Course Outline	
Institute	Institute of Aviation Studies (IAS)
Program	BS Aviation Management
Course code	AM411
Course Title	Environmental Factors in Aviation
Credit Hours	03
Duration	16 Weeks
Prerequisites	AM301
Resource Person	Muhammad Nawaz Gill
Counseling Hours	Monday to Thursday 1900-1100
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Website	www.ias.umt.edu.pk

Faculty Signature _____

Date _____

PH/COD/HOD Signature _____

Date _____

Dean's Signature _____

Date _____

Continuous Improvement			
Major Changes	Updated By	Document No.	Date
Development of course outline	Muhammad Nawaz Gill	AM417-V1.0-F2025	30 Sep 2025

About BS Aviation Management

Mission

Education with purpose, **D**evelopment of professional skills, **G**lobal readiness, and **E**xcellence to prepare students for success in aviation.

Program Educational Objectives (PEOs)

- **PEO 1: Industry Focus**
Graduate is working in aviation industry, demonstrating competence to perform effectively in diverse professional roles while adapting to evolving industry practices.
- **PEO 2: Business Management**
Graduate is taking on professional roles in business management, applying their skills to analyze, plan, and execute organizational functions effectively.
- **PEO 3: Research and Advance Studies**
Graduate is engaging in research and advanced studies broadening their academic and professional horizons.

Program Learning Outcomes (PLOs)

- **PLO1: Analytical Thinking and Decision Making**
Ability to interpret and analyze aviation industry problems, applying critical thinking and quantitative methods to develop solutions and make effective decisions.
- **PLO2: Effective Communication Skills**
Ability to prepare, present, and convey ideas clearly through verbal and non-verbal communication effectively in professional contexts.
- **PLO3: Regulations, Compliance and Ethics**
Ability to understand and evaluate regulatory frameworks, standards and safety/security practices to ensure that the operations remain ethical and compliant with national and international regulations.
- **PLO4: Business Knowledge and Entrepreneurship**
Ability to understand the interrelated functional areas of business and use this knowledge to enhance organizational performance.
- **PLO5: Service Operations**
Ability to run, analyze, and optimize day-to-day aviation service operations and manage related infrastructure to achieve operational excellence.

- **PLO6: Technology Integration**
Ability to use digital tools, software applications, and information systems to support aviation operations and manage business processes.
- **PLO7: Corporate Social Responsibility**
Ability to understand and evaluate the impact of aviation business on economic, social, and environmental aspects of society.
- **PLO8: Organizational Behavior, Leadership and Teamwork**
Ability to evaluate organizational conflict, politics, power, and culture, while applying leadership and teamwork skills to achieve collective goals.

1. Course Description

The course is intended to promote understanding of the environmental issues & threats being confronted by the airport management/authorities, the navigational service providers, airlines and the stakeholders in smooth, reliable and sustainable airport/flight operations. It contains the factors affecting smooth aviation operations and the role and initiatives by various organizations and regulatory bodies. This course is also intended to enrich the students' knowledge of the measures and arrangements to mitigate the effects of environmental threats for sustainable and smooth flights & airport operations with least effect on the people and planet.

2. Learning Methodology

The course will be delivered through a series of lectures followed by the class activities, group tasks /discussions, assignments and presentations. This course is versatile in the sense that it incorporates two special assignments, one is research one and the other is an activity/Scenario-based practical assignment. These two assignments will help to develop a research insight, foster creativity and critical thinking and above all create more interest in the course. A case study alongside an embedded ethical dilemma is also included as a special topic to familiarize about the ethical professional obligations

3. Course Learning Outcomes (CLOs)			
Sr.	Upon successful completion of this course, the student will be able to...	PLO Mapping	Learning Domain & level
1	Explain how regulatory frameworks, compliance standards, and governance structures shape the planning and management of airports to ensure safe, secure, and ethical operations.	3	C1
2	Apply airport planning principles to design strategies that support sustainable growth while addressing environmental and community responsibilities.	7	C3
3	Evaluate airport infrastructure, including airside, terminal, and ground access functions, to judge its effectiveness in meeting capacity demands and delivering high-quality passenger services.	5	C5

4. CLO – PLO Mapping								
CLOs	Program Learning Outcomes (PLOs)							
	Analytical Thinking and Decision Making	Effective Communication Skills	Regulations, Compliance and Ethics	Business Knowledge and Entrepreneurship	Service Operations	Technology Integration	Corporate Social Responsibility	Organizational Behavior, Leadership and Teamwork
	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8
1			✓					
2							✓	
3					✓			

5. Resources

- Environmental Factor in Aviation University of Management and Technology IAS Aviation and Sustainable Development, Background Paper No. 9, Commission on Sustainable Development, Ninth Session, 16-27 April 2001, New York; Prepared by International Civil Aviation Organization www.un.org › [esa](#) › [sustdev](#) › [csd](#) › [csd9_bp9.pdf](#)
 - Environmental Factors Affecting Loss of Control In-Flight: Best Practice for Threat Recognition and Management; Prepared by International Air Transport Association flightsafety.org › [wp-content](#) › [uploads](#) › [2017/07](#) › [IA...pdf](#)
- Recycling, Reuse and Waster Reduction at Airports, A Synthesis Document; Prepared by the Office of Airports, Federal Aviation Administration, April 24, 2013 www.faa.gov › [media](#) › [RecyclingSynthesis2013.pdf](#)
- Advisory Circular, AC No.: 150/5320-14; Subject: Airport Landscaping for Noise Control Purposes; Department of Transportation, Federal Aviation Administration www.faa.gov › [media](#) › [Advisory_Circular](#) › [150_5320...pdf](#)
- ICAO annex 16 CAEP ..and balanced approach of ICAO to control environmental impact www.01db.com › [wp-content](#) › [uploads](#) › [sites](#) › [2016/11](#)
- Plane truth Aviation's real impact on people and the environment by Rose Bridge
 - Air transport and the environment 1st edition by Ben Daley
 - Critical Issues in Aviation and the Environment, Transportation Research Circular, Number E – C089; Transportation Research Board of the National Academics.
 - Environmental and Health Impacts of Aviation, Workplan Ref EP/IV/A/STOA/2000/07/02; Published by the European Parliament.
 - Aviation and the Environment; Parliamentary Office of Science and Technology, the UK Parliament.

8. Course Schedule

Week	Topics	Readings	Assessment	Ref of CLO
1	Aviation and the Environment issues	Chapter 1& 2 BOOK 1 Environmental Factor in Aviation University of Management and Technology IAS	Class discussion	1,2
2	Air transport and climate	Chapter 3 Book -1	Class activity	1.2
3	Air trans port and air quality	Chapter -4 Book -1	Quiz 1	1
4	Aircraft Noise	Chapter -5 Book -1	Assignment 1	1
5	Environmental factors and control measures by ICAO	Aviation and Sustainable Development, Background Paper by International Civil Aviation Organization	Class activity2	2
6	Airport Noise (Control) Balanced approach to Control noise by ICAO Quiz 2	Airport Landscaping for Noise Control Purposes Advisory Circular, AC No.: 150/5320-14	Quiz 2	1,2
7	Airport Waste	Recycling, Reuse and Waste Reduction at Airports FAA Report; April 24, 2013	Class activity 3	1,2
8	Mid – Term Assignment 2 airport waste identification			
9	Airport Waste Quiz 3	Recycling, Reuse and Waste Reduction at Airports FAA Report; April 24, 2013	Quiz 3	1,2

10	Loss of Control in Flight	Environmental Factors Affecting Loss of Control In-Flight: Best Practice for Threat Recognition and Management IATA publication, First Edition	Class activity 4	2,3
11	Loss of Control in Flight	Environmental Factors Affecting Loss of Control In-Flight: Best Practice for Threat Recognition and Management IATA publication, First Edition	Assignment 3 Class activity 5	1,
12	Airport and Sustainable Development	Aviation and Sustainable Development, Commission on Sustainable Development, Ninth Session,	Quiz 4 Assignment 4	1
13	Airport and Sustainable Development	Book 1 Ch -6	Class activity 6	2
14	Regulatory obligations and tools to control environmental impact	ICAO Annex16, NAP PCAA CAEP ICAO	Quiz 5	2
15	Project/Presentation	Case study Topics out of list below (for presentation)	Presentation	3
16	Presentations/Viva	Assigned topics		3
17	Final	Assigned syllabus		2&3

7. Assessments

Assessment	Weightage	Detail	Due
Quiz-1	15%	Covers Topics: book.1, Chapter1,2,3	3 rd session
Quiz-2		Covers Topics: Aviation and sustainable development by ICAO	6th session
Quiz-3		Covers Topics: Loss of control -I	9th session
Quiz-4		Covers Topics: Aviation and sustainable development by ICAO	12th session
Quiz 5			
Presentation	5%	On, as assigned topics	
Assignments	10%	As assigned	As assigned
Class activity total 6	10%	Research Assignment, out of the topics provided below Assignment. CA ON GIVEN topics Case study with ethical Dilemma (in-class activity) Presentation, On bellow topics	4 th session 5th session 7th session 10 th session 15 th session
Mid Exam (Written)	25%	MCQs and/or Short Essay Qs	9 th session
Final Exam (written)	35 %	MCQ, short questions & case study	As per schedule

8. Course Assessments	
Assessment Details	Target CLOs
A. Activities	
Intentionally left blank. Contact resource person for this section.	
B. Assignments (Rubric is attached in Appendix B)	
Intentionally left blank. Contact resource person for this section.	
C. Project/Presentation (Rubric is attached in Appendix C)	
Intentionally left blank. Contact resource person for this section.	

9. Mapping of Assessments with CLOs												
CLOs	Assessments											
	Quiz 1	Quiz 2	Quiz 3	Class Activity 1	Class Activity 2	Class Activity 3	Assignment 1	Assignment 2	Assignment 3	Project/ Presentation	Mid Term	Final Term
1	✓			✓			✓			✓	✓	✓
2		✓			✓			✓		✓	✓	✓
3			✓			✓			✓	✓	✓	✓

10. Class Policy

Students are required to read and understand all items outlined in the participant handbook

Class Attendance: Students need to be in class at the assigned time. After **10 minutes** past the assigned time, the students will be marked absent.

Turn-off Mobile Phone: It is unprofessional and unethical to be texting or calling during the class.

Read Emails: Participants should regularly check their university emails accounts regularly and respond accordingly. Students would be responsible if they miss a deadline because of not reading the emails.

Class Attendance Policy: A minimum of **75% attendance** is required for a participant to be eligible to sit in the final examination. International students who will be leaving for visa during semester should not use any days off except for visa trip to avoid reaching short attendance.

UMT-LMS: Participants should regularly visit the LMS and fully benefit from its capabilities. If you face any issue regarding this, contact the resource person or email your query to lms.support@umt.edu.pk for assistance.

Anti-harassment Policy: Sexual or any other harassment is prohibited and is constituted as punishable offence. All actions categorized under this policy when done physically or verbally would also be considered as harassment even by using electronic media such as computers, mobiles, internet, emails etc.

Use of Unfair Means/Honesty Policy: Any participant found using unfair means or assisting another participant during a class test/quiz, assignments or examination would be liable to disciplinary action.

Plagiarism Policy: Similarity report on every assignment either big or small will be checked and only 19% overall and 5% from a single source is allowed. Any student who attempts to bypass this will receive negative marking which will count towards the CGPA.

Use of Generative AI Policy: Use of Generative AI tools is permitted up to 5% for language enhancement only. Each report must include the following declaration:

“During the preparation of this work, the author(s) used [Gen AI Tool Name] to [purpose: e.g., improve language, format references, generate ideas]. The content has been reviewed, edited, and verified by the author(s), who take full responsibility for the submitted material.”

In case of violation, penalties include (1) First-time failure to disclose Gen AI usage: verbal warning and resubmission, (2) Full AI-generated submissions may face grade penalty and/or disciplinary hearing, (3) Repeated misconduct may lead to the suspension from academic activities for one or more semesters, revocation of degree (after investigation), or listing of student name on the HEC/UMT academic misconduct records page.

Course Withdrawal Policy: Students may withdraw from a course till the end of the 15th week of the semester. Consequently, grade ‘W’ will be awarded to the student which shall have no impact on the calculation of the GPA of the student.

Communication of Results: The results of quizzes and assignments are communicated to the participants during the semester and answer books are returned. It is the responsibility of the course instructor to keep the participants informed about his/her progress during the semester. The course instructor will inform participants about their performance in a particular assessment within a week of conducting that assessment.

Appendix A

Cover Page for Assignment

Assignment Title

Assignment Number

Student Names:

Students IDs:

Subject Name:

Section:

Name of Resource Person:

Due Date:

BS. Aviation Management

Institute of Aviation Studies (IAS)

University of Management & Technology (UMT), Lahore

Appendix B

Rubric for Assignment

Dimensions/ Weight	Does Not Meet Expectations (0-1 points)	Meets Expectations (2-3 points)	Exceeds Expectations (4-5 points)	Score
1. Understanding of Core Concepts	Demonstrates minimal understanding of airport planning and management principles; major inaccuracies present.	Demonstrates adequate understanding; some minor inaccuracies or incomplete explanations.	Demonstrates strong conceptual clarity and critical understanding with relevant and accurate examples.	/5
2. Application and Analysis	Limited or no application of course concepts; analysis lacks depth or logical flow.	Applies course concepts correctly to some extent; analysis is sound but lacks depth or innovation.	Effectively applies and analyzes airport management principles in a clear, logical, and insightful manner.	/5
3. Organization, Structure, and Clarity	Disorganized, lacks logical flow, poor formatting, and unclear writing.	Organized and generally coherent; writing is mostly clear with some structural issues.	Well-organized, coherent, and polished writing; excellent flow and logical argumentation.	/5
4. Research and Referencing	Few or no credible sources; referencing is incomplete or inconsistent; lacks citation format.	Adequate use of credible sources; mostly consistent referencing in acceptable format (APA or Harvard).	Extensive use of credible and current sources; accurate and consistent referencing throughout.	/5
5. Originality and Compliance with Academic Integrity	Similarity >19% overall or >5% from a single source; evidence of plagiarism or attempts to bypass similarity check.	Similarity ≤19% overall and ≤5% per source; properly paraphrased and referenced.	Similarity ≤10% overall; clear originality and paraphrasing; reflects authentic independent work.	/5
6. Responsible Use of Generative AI	AI use exceeds 5% or declaration missing; evidence of full AI-generated work.	AI use ≤5% for language enhancement only; declaration included.	Minimal or no AI use; clear evidence of student-authored content; declaration properly added.	/5
Total 100%	Content Criteria			30

Appendix C

Rubric for Presentation

Dimensions	Requirement	Individual Score					Average Score
		1	2	3	4	5	
Delivery	Speed, eye contact, clarity, audibility, tone	/10	/10	/10	/10	/10	
Content	Sets out relevant topics, confident with material, aids understanding	/10	/10	/10	/10	/10	
Structure	Logical, easy to follow, provides headings, each section relates to overall purpose	/10	/10	/10	/10	/10	
Use of visual aids	Uses of other visual aids, relevant to content.	/10	/10	/10	/10	/10	
Individual Viva	Answer to the questions	/10	/10	/10	/10	/10	
Total Score		/50	/50	/50	/50	/50	