Estd. 1990

UMT | IAS
Institute of Aviation Studies

Course Outline	
Institute	Institute of Aviation Studies (IAS)
Program	BS Aviation Management
Course code	AM402
Course Title	Airline Operations Management
Credit Hours	03
Duration	16 Weeks
Prerequisites	MG120
Resource Person	
Counseling Hours	Monday 14:00 to 16:00 Tuesday 10:00 to 14:00 Wednesday 14:00 to 16:00 Thursday 10:00 to 16:00 Friday 10:00 to 15:00
Contact Details	**Email:**
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	Mr. Muhammad Usama	AM320-V1.0-F2025	30 Dec 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

To provide students with a comprehensive understanding of the operational aspects of an airline, covering topics from flight scheduling and fleet management to airport operations, safety regulations, and customer service. The course also focuses on understanding the financial and strategic decision-making involved in running an airline

2. Learning Methodology

Lectures: Classroom lectures remain an essential part of teaching Airline Operations Management. The goal with classroom lectures is to strike a balance between delivering core content, engaging students, and providing them with a clear understanding of the material that they can apply in real-world scenarios.

Case-Base Learning (CBL): Using real-world airline case studies encourages critical thinking and problem- solving. Students analyse actual airline challenges and propose solutions based on theoretical concepts. Choose relevant case studies from major airlines (e.g., Delta, Emirates, Southwest, or Ryanair) on topics like crisis management, fleet management, or customer service.

Flipped Classroom: Provide online modules, videos, and readings on topics such as airline revenue management, flight operations, or safety protocols before the lecture. Use class time for practical exercises, group discussions, and Q&A sessions.

Assignments: Assignments are a crucial component of the learning process, as they allow students to apply theoretical concepts in real-world scenarios and demonstrate their understanding of key topics. Assignments will be designed not only to test knowledge but also to encourage critical thinking, problem-solving, and creativity in addressing real-world challenges faced by the airline industry.

Industry Expert Webinars/Guest Lectures: If required, we may have a guest speaker from the industry. Objective of this activity is to give most updated and industry knowledge to the students.

3. Course Learning Outcomes (CLOs)

Sr.	Upon successful completion of this course, the student will be able to…	PLO Mapping	Learning Domain & level
1	Analyze Airline Operations (Analyze): Students will analyze key components of airline operations, such as flight scheduling, fleet management, and ground services, to evaluate their impact on efficiency and profitability.	1	C4
2	Apply Revenue Management and Pricing Strategies (Apply): Students will apply revenue management and dynamic pricing strategies to optimize financial performance, including ticket pricing and route planning.	6	C3
3	Design Crisis Management Plans (Create): Students will design crisis management plans to address operational disruptions and safety incidents, ensuring operational continuity and customer satisfaction.	5	C6

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

A. Text Books

- Airline Operations and Management: A Management Textbook by Gerald N. Cook and Bruce Billig
- Introduction to Air Transport Economics by Bijan Vasigh and Ken Fleming
- Airline Industry: A Global Perspective by Peter Belobaba
- Journal of Air Transport Management
- Reports: IATA, ICAO, and ACI on global aviation trends

B. Journal Articles

C. Case Studies

D. Web Links

E. Diplomas, Short Courses & Certifications

6. Schedule

Weeks	Course Content	Reference Book	Chpt.	Ref. CLO
1	Introduction to Airline Operations Management Lecture 1: Introduction to Airline Industry Overview of the airline industry and its significance in the global economy. Historical development of airlines. Key players in the airline industry (airlines, airports, ground services, etc.) Lecture 2: Airline Business Models Full-service vs. low-cost carriers. Hybrid airlines. Case studies of major airlines (e.g., Delta, Emirates, Southwest).			
2	Airline Market and Network Development Lecture 3: Airline Network and Route Planning Types of airline networks (hub- and-spoke vs. point-to-point). Route selection and market analysis. Competitive and demand analysis. Lecture 4: Scheduling and Fleet Management Scheduling challenges and strategic considerations. Fleet planning: choosing aircraft types and managing fleet size. Aircraft utilization and turnaround times.			
3	Airport Operations Lecture 5: Airport Infrastructure and Management Key components of an airport: terminals, runways, apron, etc. Role of airport authorities and government regulations. Lecture 6: Ground Operations and Turnaround Times Ground handling processes: boarding, baggage			

	handling, fueling, etc. Importance of efficient turnaround times in airline operations.			
4	Airline Safety and Security Management Lecture 7: Airline Safety Regulations and Compliance International and national aviation safety organizations (ICAO, FAA, EASA). Safety standards and regulations. Lecture 8: Security Management Security processes at airports. Managing risks and implementing security protocols. Crisis management and emergency response.			
5	Flight Operations Lecture 9: Flight Crew and Crew Scheduling Crew types: pilots, cabin crew, and ground staff. Crew scheduling, regulations, and union dynamics. Lecture 10: Cockpit and In- Flight Operations In-flight services: passenger safety, cabin management, and in- flight entertainment. Communication between pilots and air traffic control (ATC).			
6	Airline Customer Service Management Lecture 11: Customer Service and Passenger Experience Designing a customer service strategy for airlines. Customer service touch points: check-in, boarding, in-flight services, baggage handling. Lecture 12: Passenger Handling and Special Services Handling special needs passengers (elderly, disabled, etc.). Managing overbooked flights, cancellations, and rebooking.			
7	Revenue Management and Pricing Lecture 13: Airline Revenue Management			

	Introduction to revenue management systems. Dynamic pricing and yield management. Optimizing seat inventory and maximizing profitability. Lecture 14: Airline Pricing Strategies Ticket pricing and fare structures. Ancillary revenue (baggage fees, onboard purchases, etc.). Pricing for corporate and frequent flyers.			
8	Cargo and Freight Operations Lecture 17: Air Cargo Operations Types of cargo: general, express, and perishable goods. Cargo handling procedures and safety regulations. Lecture 18: Integration of Cargo and Passenger Services Shared services between passenger and cargo operations. The role of freight forwarders and logistics companies.			
9	Mid Term			
10	Airline Financial Management Lecture 19: Financial Overview of Airline Operations Key financial indicators: operating costs, revenues, profitability. Cost structures: fixed vs. variable costs in airline operations. Lecture 20: Budgeting and Forecasting Developing budgets and financial plans for airlines. Long-term planning and forecasting of revenues and costs.			
11	Aviation Regulations and Compliance Lecture 21: International Aviation Regulatory Framework Role of ICAO, IATA, and regional authorities. Safety and environmental regulations.			

	Lecture 22: National and Regional Airline Regulations FAA regulations and compliance for US-based airlines. European Union regulations and their impact on airline operations.			
12	Technology and Innovation in Airline Operations Lecture 23: Role of Technology in Airline Operations How technology is transforming airline operations (e.g., digital check-ins, mobile apps). Innovations in airport and flight management. Lecture 24: Future Technologies: AI, Big Data, and Block chain Use of AI and machine learning in optimizing airline operations. Big data in customer experience and operational efficiency. Blockchain applications in ticketing and logistics.			
13	Crisis Management and Contingency Planning Lecture 25: Airline Crisis Management Case study of major airline crises (e.g., 9/11, COVID-19 pandemic). Crisis response, recovery, and business continuity planning. Lecture 26: Contingency Planning in Operations Developing contingency plans for disruptions (weather, technical failures, etc.). Managing operational delays and cancellations.			
14	Sustainable Airline Operations Lecture 27: Environmental Impact of Airlines Aviation's environmental footprint (carbon emissions, noise pollution). Initiatives for reducing emissions (biofuels, electric aircraft, etc.). Lecture 28: Corporate Social Responsibility (CSR)			

	in Airlines CSR strategies for airlines. Balancing profit and environmental/social responsibilities.			
15	Strategic Airline Management Lecture 29: Airline Strategic Planning Strategic decision-making frameworks. Airline alliances and partnerships (code-sharing, joint ventures). Lecture 30: Airline Mergers and Acquisitions M&A in the airline industry: reasons, challenges, and benefits. Case studies of major airline mergers.			
16	Case Discussion	Weblinks and Cases		
-	Final Exam	-		

7. Evaluation Criteria and Weightages			
Assessments	**Assessments**	**Weightages (%)**	**Details**
Quizzes	3	10	Topic/s for each quiz will be announced.
Class Activities	3	10	Relevant to the ongoing lecture, activities, assignments and projects.
Assignments	3	10	Assignment topics will be announced.
Project/Presentation/Viva	1	10	Will be announced.
Mid Exam (Written)	1	25	Syllabus for mid-term exam will be announced in 6th week.
Final Exam (Written)	1	35	Syllabus for final-term exam will be announced in 14th week.

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	