Aviation Meteorology for Airport Managers Training Course

Professional Development Training Course Outline

Category	Aviation and Airport Management	**Duration**	5 Days
Base Fee	$1,500 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

Aviation Meteorology for Airport Managers is a specialized training course designed to strengthen decision-making through advanced understanding of weather intelligence, aviation forecasting, operational risk management, climate resilience, airport safety, and regulatory compliance. Modern airports operate in highly dynamic environments where meteorological information directly influences flight safety, runway operations, air traffic management, emergency preparedness, passenger experience, and business continuity. Aviation Meteorology for Airport Managers Training Course equips airport managers with practical knowledge to interpret meteorological data, assess weather-related operational risks, and implement proactive strategies that enhance airport efficiency and operational excellence.

The course integrates global best practices, ICAO standards, airport weather monitoring systems, digital forecasting technologies, aviation climate adaptation, severe weather response, and data-driven operational planning. Participants will explore real-world aviation weather scenarios, learn how to coordinate with meteorological service providers, improve airport resilience against extreme weather events, and optimize airport performance through predictive weather intelligence. The program combines practical applications, interactive discussions, and international case studies to strengthen strategic leadership in airport meteorology management.

Programme Curriculum

Aviation Meteorology for Airport Managers Training Course

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Course Objectives

Upon successful completion of this course, participants will be able to:

- Understand aviation meteorology principles and airport weather systems.
- Interpret METAR, TAF, SIGMET, and aviation weather products.
- Enhance operational decision-making using weather intelligence.
- Strengthen runway safety during adverse weather conditions.
- Apply ICAO meteorological standards and recommended practices.
- Improve airport emergency preparedness for severe weather events.
- Integrate weather forecasting into airport operational planning.
- Utilize digital meteorological technologies and decision-support tools.
- Manage climate-related aviation operational risks effectively.
- Improve coordination between airport operators and meteorological agencies.
- Develop resilient airport weather risk management strategies.
- Enhance business continuity through predictive weather analysis.
- Promote sustainable and climate-resilient airport operations.

Organizational Benefits

- Improved airport operational safety.
- Enhanced flight scheduling efficiency.
- Reduced weather-related operational disruptions.
- Better emergency preparedness and response.
- Increased regulatory compliance.
- Improved stakeholder coordination.
- Enhanced airport resilience against climate risks.
- Optimized resource allocation during adverse weather.
- Strengthened passenger safety and satisfaction.
- Improved organizational decision-making.

Target Audiences

- Airport Managers
- Airport Operations Managers
- Airside Operations Personnel
- Airport Safety Officers
- Air Traffic Management Personnel
- Airport Emergency Coordinators
- Civil Aviation Authority Officials
- Aviation Operations Supervisors

Course Duration: 5 days

Course Modules

Module 1: Fundamentals of Aviation Meteorology

- Principles of aviation meteorology
- Atmospheric structure and weather formation
- Aviation weather elements
- Airport weather observation systems
- Weather hazards affecting aviation
- Case Study: Heathrow Airport fog operations

Module 2: Aviation Weather Reports and Forecasts

- Understanding METAR reports
- Interpretation of TAF forecasts
- SIGMET and AIRMET applications
- Weather charts and aviation graphics
- Forecast accuracy and limitations
- Case Study: Singapore Changi weather forecasting operations

Module 3: Airport Weather Monitoring Systems

- Automated Weather Observation Systems
- Weather radar technologies
- Wind monitoring equipment
- Visibility measurement systems
- Lightning detection technologies
- Case Study: Dubai International Airport weather monitoring

Module 4: Weather Hazards and Airport Operations

- Thunderstorms and airport safety
- Wind shear and microburst management
- Icing and frost operations
- Low visibility procedures
- Tropical storms and airport preparedness
- Case Study: Denver International snowstorm management

Module 5: Weather Risk Management and Emergency Response

- Weather risk assessment
- Airport emergency response planning
- Crisis communication strategies
- Operational continuity planning
- Multi-agency coordination
- Case Study: Hong Kong International Airport typhoon response

Module 6: Climate Change and Airport Resilience

- Climate impacts on aviation
- Airport climate adaptation strategies
- Flood risk management
- Heatwave operational planning
- Sustainable airport resilience initiatives
- Case Study: Amsterdam Schiphol climate adaptation program

Module 7: ICAO Standards and Meteorological Compliance

- ICAO Annex 3 requirements
- International aviation weather regulations
- Meteorological service providers
- Airport compliance management
- Quality assurance in meteorological services
- Case Study: ICAO implementation at Doha Hamad International Airport

Module 8: Digital Aviation Meteorology and Future Trends

- Artificial Intelligence in weather forecasting
- Big Data analytics for aviation
- Satellite meteorology applications
- Predictive operational decision support
- Future aviation meteorology innovations
- Case Study: FAA NextGen weather integration program

Training Methodology

- Interactive expert-led presentations
- Practical aviation weather interpretation exercises
- Group discussions and collaborative learning
- Airport weather simulation activities
- Real-world aviation case study analysis
- ICAO regulatory review sessions
- Hands-on forecasting workshops
- Scenario-based emergency response exercises
- Technology demonstrations
- Action planning and knowledge assessments

Register as a group from 3 participants for a Discount

Send us an email: info@fineskilltrainingcenter.org or call *+254769199797*

Certification

Upon successful completion of this training, participants will be issued with a globally- recognized certificate.

Tailor-Made Course

We also offer tailor-made courses based on your needs.

Key Notes

a. The participant must be conversant with English.

b. Upon completion of training the participant will be issued with an Authorized Training Certificate

c. Course duration is flexible and the contents can be modified to fit any number of days.

d. The course fee includes facilitation training materials, 2 coffee breaks, buffet lunch and A Certificate upon successful completion of Training.

e. One-year post-training support Consultation and Coaching provided after the course.
f. Payment should be done at least a week before commence of the training, to Fineskill Training Center account, as indicated in the invoice so as to enable us prepare better for you.

Upcoming Scheduled Sessions

Start Date	End Date	Location	Price

23 Nov 2026	27 Nov 2026	Online	$1,000
23 Nov 2026	27 Nov 2026	Physical	$1,500
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$4,500
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$6,000

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Email: info@fineskilltrainingcenter.com | Website: www.fineskilltrainingcenter.com