Training Course on Airline Operations Control and Dispatch

Professional Development Training Course Outline

Category	Aviation and Airport Management	**Duration**	10 Days
Base Fee	$3,000 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

This intensive training course provides aviation professionals with the critical knowledge and advanced skills required for excelling in **Airline Operations Control** and **Flight Dispatch**. Participants will gain a deep understanding of **real-time operational management**, **regulatory compliance**, and **crisis management** within the dynamic airline environment. Emphasizing **safety, efficiency, and cost-effectiveness**, this program leverages **cutting-edge technologies** and **data-driven decision-making** to prepare individuals for the complex challenges of modern aviation.

Training Course on Airline Operations Control and Dispatch is meticulously designed to cover all facets of **flight planning, weather analysis, aircraft performance, and air traffic management**, incorporating **industry best practices** and **emerging trends** like **AI integration** and **predictive analytics**. Graduates will be equipped to optimize flight paths, mitigate disruptions, ensure passenger safety, and contribute significantly to an airline's operational excellence and profitability. This program is ideal for those seeking to advance their careers in **aviation operations**, becoming indispensable assets in the realm of **global air transport**.

Programme Curriculum

Training Course on Airline Operations Control and Dispatch

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Course Duration

10 days

Course Objectives

1. Master **Aviation Regulations & Compliance** (FAA, ICAO, EASA) for safe and legal operations.
2. Develop proficiency in **Advanced Flight Planning** and **Route Optimization** using modern software.
3. Interpret and apply **Meteorological Data & Weather Forecasting** for proactive decision-making.
4. Understand **Aircraft Performance & Weight and Balance** calculations for diverse fleet types.
5. Implement effective **Fuel Management Strategies** to enhance operational efficiency and cost savings.
6. Navigate **Air Traffic Management (ATM) Systems** and procedures for seamless coordination.
7. Apply **Crew Resource Management (CRM)** and **Human Factors** principles in dispatch operations.
8. Execute robust **Emergency Procedures & Crisis Management** protocols for irregular operations (IROPS).
9. Utilize **Real-time Data Analytics** for situational awareness and predictive disruption management.
10. Integrate **Artificial Intelligence (AI) & Machine Learning** tools for enhanced decision support in dispatch.
11. Optimize **Turnaround Management & Ground Operations** for swift and efficient aircraft movement.
12. Develop strong **Communication & Coordination Skills** with flight crews, ATC, and ground staff.
13. Foster a culture of **Safety Management Systems (SMS)** and continuous operational improvement.

Organizational Benefits

- Streamlined flight planning, optimized routes, and reduced delays lead to significant cost savings.
- Proactive identification and management of potential hazards, ensuring the highest safety standards.
- Optimized flight paths and fuel planning contribute to sustainability goals.
- Minimized disruptions, improved on-time performance, and effective communication enhance the travel experience.
- Adherence to national and international aviation regulations reduces legal and financial risks.
- Efficient management of aircraft, crew, and ground support assets.
- Well-trained dispatchers can swiftly and competently manage irregular operations and emergencies.
- A highly skilled operations control team enhances an airline's reputation for reliability and efficiency.
- Leveraging analytics for strategic planning and real-time operational adjustments.

Target Audience

1. Aspiring Flight Dispatchers and Operations Control Officers.
2. Existing airline operations personnel seeking career advancement or skill enhancement.
3. Pilots and air traffic controllers interested in ground operations.
4. Recent aviation graduates aiming for specialized roles.
5. Airline management trainees focusing on operational aspects.

6. Individuals from related logistics or transportation fields looking to transition into aviation.
7. Military personnel with aviation experience seeking civilian roles.
8. Aviation enthusiasts pursuing a professional career in airline operations.

Course Outline

Module 1: Introduction to Airline Operations & Dispatch

- Overview of the global aviation ecosystem and airline business models.
- Role and responsibilities of the Flight Dispatcher/Operations Controller.
- Organizational structure of an airline's operations control center (OCC).
- Key departments and their interdependencies (maintenance, crew scheduling, commercial).
- Evolution of airline operations control: historical perspective to modern digital integration.
- **Case Study:** The evolution of a major legacy carrier's OCC from manual processes to integrated digital platforms, highlighting efficiency gains.

Module 2: Aviation Law, Regulations & Compliance

- International Civil Aviation Organization (ICAO) standards and recommended practices.
- National aviation authority regulations (e.g., FAA, EASA, KCAA) pertinent to dispatch.
- Operational specifications (Ops Specs) and their importance.
- Airworthiness directives and mandatory compliance procedures.
- Legal responsibilities and liabilities of a flight dispatcher.
- **Case Study:** Analysis of a regulatory non-compliance incident and its impact on airline operations and reputation, emphasizing prevention.

Module 3: Aviation Meteorology & Weather Analysis

- Fundamentals of atmospheric science and weather phenomena affecting aviation.
- Interpretation of METAR, TAF, SIGMET, AIRMET, and other aviation weather reports.
- Understanding frontal systems, thunderstorms, turbulence, icing, and volcanic ash.
- Impact of severe weather on flight planning, route selection, and diversions.
- Utilization of advanced weather forecasting tools and satellite imagery.
- **Case Study:** A major weather disruption (e.g., hurricane, volcanic eruption) and the dispatch actions taken to ensure safety and minimize delays.

Module 4: Aerodynamics & Aircraft Performance

- Basic principles of flight, lift, drag, thrust, and weight.
- Aircraft systems: propulsion, flight controls, navigation, and communication.
- Performance limitations: takeoff, landing, climb, cruise, and descent.
- Understanding aircraft manuals (AFM/POH) and performance charts.
- Factors affecting performance: temperature, altitude, weight, and wind.
- **Case Study:** Analyzing an incident related to incorrect weight and balance or performance calculation, and the corrective actions taken.

Module 5: Principles of Flight Planning & Navigation

- Route selection: great circle vs. rhumb line, preferred routes, airways.
- Navigation systems: INS, GPS, RNAV, RNP.
- Calculating flight time, distance, and fuel requirements.
- ETOPS/EDTO operations and extended range flight planning.

- Pre-flight planning procedures and documentation.
- **Case Study:** Optimizing a long-haul flight route considering prevailing winds, overflight costs, and alternative airports.

Module 6: Fuel Management & Efficiency

- Components of fuel planning: trip fuel, contingency, alternate, reserve, taxi fuel.
- Factors influencing fuel consumption: altitude, speed, payload, wind.
- Fuel tankering and economic considerations.
- Real-time fuel monitoring and in-flight adjustments.
- Strategies for reducing fuel burn and carbon emissions.
- **Case Study:** An airline's initiative to reduce fuel consumption through route optimization and pilot awareness programs, showing measurable savings.

Module 7: Air Traffic Management (ATM) & Airspace

- Structure of global airspace: controlled, uncontrolled, restricted areas.
- Air Traffic Control (ATC) services and procedures.
- Flow control, slot management, and ground delay programs.
- Collaborative Decision Making (CDM) in ATM.
- Future ATM concepts (e.g., SESAR, NextGen).
- **Case Study:** Managing flights during a large-scale air traffic control system outage or significant airspace restriction.

Module 8: Weight & Balance Calculations

- Basic weight, operating empty weight, payload, and maximum takeoff/landing weights.
- Center of Gravity (CG) limitations and stability.
- Loading instructions and trim sheet preparation.
- Impact of improper weight and balance on aircraft performance and safety.
- Utilizing automated weight and balance systems.
- **Case Study:** A scenario involving an incorrect load sheet and the immediate actions required to rectify the situation before departure.

Module 9: Emergency Procedures & Irregular Operations (IROPS)

- Dispatch procedures for in-flight emergencies (e.g., engine failure, decompression, medical).
- Diversion planning and alternate airport selection.
- Handling adverse weather, mechanical issues, and security threats.
- Post-incident reporting and investigation protocols.
- Coordination with emergency services and airline stakeholders.
- **Case Study:** A comprehensive review of an actual in-flight emergency (e.g., significant mechanical issue) and the coordinated dispatch, crew, and ATC response.

Module 10: Human Factors & Crew Resource Management (CRM)

- Understanding human error in aviation operations.
- Fatigue management for dispatchers and flight crews.
- Effective communication, assertiveness, and decision-making under pressure.
- Teamwork and leadership in the OCC environment.
- Stress management and resilience.

- **Case Study:** Analyzing a communication breakdown between dispatch and flight crew that led to an operational deviation, focusing on lessons learned.

Module 11: Aviation Security & Dangerous Goods

- Threat assessment and security protocols in airline operations.
- Airport security procedures and coordination with authorities.
- Dangerous Goods Regulations (DGR) and their classification.
- Packaging, labeling, and documentation requirements for dangerous goods.
- Emergency response to dangerous goods incidents.
- **Case Study:** A security alert scenario at an airport and the immediate actions taken by the OCC to manage affected flights and passengers.

Module 12: Airline Operational Control Systems & Technology

- Overview of Flight Management Systems (FMS) and Electronic Flight Bags (EFBs).
- Dispatch software and decision support tools.
- Communication systems: ACARS, SATCOM, VHF.
- Integration of AI and machine learning for predictive analytics in dispatch.
- Cybersecurity considerations in aviation IT systems.
- **Case Study:** Implementation of a new integrated dispatch system and the challenges and benefits experienced during the transition.

Module 13: Ground Operations & Turnaround Management

- Pre-flight and post-flight ground procedures.
- Ramp safety, pushback, and taxi operations.
- Baggage handling, catering, and refueling coordination.
- Minimizing ground delays and optimizing turnaround times.
- Coordination with ground handlers and airport authorities.
- **Case Study:** Analyzing a persistent delay issue at a major hub and the collaborative efforts between dispatch and ground operations to resolve it.

Module 14: Safety Management Systems (SMS) in Dispatch

- Principles and components of an SMS: safety policy, risk management, safety assurance, safety promotion.
- Hazard identification and risk assessment in dispatch operations.
- Safety reporting systems and incident investigation.
- Continuous improvement and safety culture development.
- Role of dispatch in promoting a robust safety culture.
- **Case Study:** Implementation of a new safety reporting tool within an airline's OCC and its impact on identifying and mitigating operational risks.

Module 15: Future Trends in Airline Operations & Dispatch

- Impact of automation and robotics on ground and air operations.
- Emerging technologies: drones, UAM, sustainable aviation fuels (SAF).
- Advanced data analytics and predictive maintenance for aircraft.
- Digital transformation in the aviation industry.
- Evolving role of the human dispatcher in an increasingly automated environment.

- **Case Study:** How a leading airline is piloting AI-driven tools in their OCC to predict and proactively manage flight disruptions, showcasing future possibilities.

Training Methodology

This course employs a participatory and hands-on approach to ensure practical learning, including:

- Interactive lectures and presentations.
- Group discussions and brainstorming sessions.
- Hands-on exercises using real-world datasets.
- Role-playing and scenario-based simulations.
- Analysis of case studies to bridge theory and practice.
- Peer-to-peer learning and networking.
- Expert-led Q&A sessions.
- Continuous feedback and personalized guidance.

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	04 Dec 2026	Online	$2,000
23 Nov 2026	04 Dec 2026	Physical	$3,000

Start Date	End Date	Location	Price
23 Nov 2026	04 Dec 2026	Physical	$6,000
23 Nov 2026	04 Dec 2026	Physical	$6,000
23 Nov 2026	04 Dec 2026	Physical	$12,000
23 Nov 2026	04 Dec 2026	Physical	$9,000
23 Nov 2026	04 Dec 2026	Physical	$12,000
23 Nov 2026	04 Dec 2026	Physical	$12,000

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