

Flight Dispatch basic theory training modules and syllabus sample, based on ICAO Doc.10106

Training module - Introduction and Airline Indoctrination (IND)

Module subjects:

- ✓ Introduction to Flight Dispatch Training, its concept, contents and duration;
- ✓ Flight Dispatcher licensing and checking rules;
- ✓ Airline organizational structure;
- ✓ Introduction to Operational Control;
- ✓ Typical role- and operator-specific job titles i.e. Flight Dispatcher and Flight Operations Officer
- ✓ Flight Dispatcher duties and responsibilities;
- ✓ Introduction to Pilot qualification and requirements;
- ✓ Authority of Commander;
- ✓ Communication systems and internal procedures in an airline;
- ✓ Documentation used in Operations and Flight Dispatch division;
- ✓ Air Operator Certificate and OPS Specs;
- ✓ Conditions and limitations specified in the AOCs;
- ✓ Fleet Documentation;
- ✓ Theory of Flight and Flight Operations;
- ✓ Terminology used in Airline Operations;
- ✓ Definitions - introduction to ICAO Doc. 8400;
- ✓ Appropriate portions of the Operations Manual (OM):
- ✓ OM structure in general;

Training module - Human Performance and Limitations (HPL)

Module subjects:

- ✓ Accident analysis;
- ✓ Flight safety concepts;
- ✓ Threat and error management;
- ✓ Safety culture;
- ✓ Stress and stress management;
- ✓ Risk assessment and decisions making;
- ✓ Communication aspects;
- ✓ Body rhythm and sleep;
- ✓ Human information processing;
- ✓ Group, team and leadership;

Training module - Air Law (LAW)

Module subjects:

- ✓ International Law - Introduction to ICAO Organization;
- ✓ Introduction to ICAO Doc. 7300;
- ✓ ICAO Conventions and agreements, Annexes and documents;
- ✓ Freedoms of the air;
- ✓ Introduction to EASA and FAA and EASA Air Ops, its structure and contents;
- ✓ Introduction to Local Aviation Authority functions and responsibilities;
- ✓ Aeronautical Information Publication, its structure, parts and contents;
- ✓ International AIP database;
- ✓ Airspaces, classification, rules of entry and overflight, special use airspaces;
- ✓ Landing and overflight permits;
- ✓ Rules of the air, general;
- ✓ Search and rescue;

- ✓ Flight safety, accidents and incidents;
- ✓ Introduction to NOTAMs;
- ✓ NOTAMs versus AIPs – differences;

Training module – Meteorology (MET)

Module subjects:

- ✓ Atmosphere and atmospheric properties;
- ✓ Temperature and temperature inversions, pressure, density and its variations, humidity;
- ✓ International Standard Atmosphere;
- ✓ Airmasses, source regions;
- ✓ Pressure systems;
- ✓ Fronts, types of fronts;
- ✓ Weather, associated with cyclones and anticyclones;
- ✓ Atmospheric stability concept;
- ✓ Introduction to altimetry;
- ✓ Wind, wind measurement, wind shear and associated hazards;
- ✓ Jet stream and associated hazards;
- ✓ Clouds, cloud families, types and formation;
- ✓ Clouds with vertical development;
- ✓ Precipitation, its types and associated hazards;
- ✓ Fog, types of fog and associated hazards;
- ✓ Restrictions to visibility and associated hazards;
- ✓ Icing, icing types and associated hazards;
- ✓ Turbulence, types of turbulence, measuring turbulence;
- ✓ Theory of thunderstorms and associated hazards;
- ✓ Hurricanes, tornados, typhoons, tropical cyclones, ITCZ and associated hazards;
- ✓ Other significant weather phenomena - e.g. tornados, water spouts, sandstorms, typhoons;
- ✓ Meteorological information and sources of obtaining official meteorological information;
- ✓ Text weather reports - METAR, TAF, SIGMET, PIREP etc.;
- ✓ Graphical weather products - winds and temperature charts, significant weather SIGWX charts etc.;
- ✓ Weather associated hazards in aviation and avoidance measures on planning stage;
- ✓ Runway condition;
- ✓ Introduction to Global Reporting Format (GRF)
- ✓ SNOWTAM

Training module – Principle of Flight (POF)

Module subjects:

- ✓ Basic definitions use in aerodynamics;
- ✓ Air flow and wing design;
- ✓ Forces of flight;
- ✓ Lift control devices, high lift devices;
- ✓ High speed aerodynamics;
- ✓ Static and dynamic stability;
- ✓ Stalling and stalling speeds;
- ✓ Primary and secondary flight controls;
- ✓ Trim;
- ✓ Flight mechanics;

Training module – Mass & Balance (M&B)

Module subjects:

- ✓ Aircraft structural limitations;
- ✓ Aircraft masses;

- ✓ Mass & Balance concept and terms;
- ✓ Mass limits, structural limitations;
- ✓ Performance and Regulatory limitations;
- ✓ Cargo compartment limitations;
- ✓ Mass calculations;
- ✓ Definition of centre of gravity and its limits;
- ✓ Effects of excessive forward and excessive rearward centre of gravity;
- ✓ Details of passenger and cargo compartments;
- ✓ Weighing of aircraft - general aspects;
- ✓ Load and trim sheet;

Training module – Aircraft Systems / Aircraft General Knowledge and Instrumentation (TEC)

Module subjects:

- ✓ Main terms of system design, loads, stresses, types of maintenance;
- ✓ Introduction to main aircraft systems;
- ✓ Introduction to main differences between aircraft types;
- ✓ Hydraulics system;
- ✓ Landing gear operation;
- ✓ Primary flight controls;
- ✓ Secondary flight controls;
- ✓ Pneumatic system;
- ✓ Air conditioning system;
- ✓ De-icing, anti-icing system;
- ✓ Fuel system;
- ✓ Electrical system;
- ✓ Engines operation;
- ✓ Equipment (oxygen, smoke combat equipment);
- ✓ Air data instruments and measurement, air data computer and IRS;
- ✓ Angle of attack measurement;
- ✓ Airspeed and vertical speed indicators;
- ✓ Compass and gyro – general;
- ✓ Automatic flight control system;
- ✓ Communication system;
- ✓ Flight management system;
- ✓ Alerting and proximity system;
- ✓ Emergency and medical equipment, survival equipment;
- ✓ Portable oxygen on board;
- ✓ Cockpit user interface and display;
- ✓ Maintenance, monitoring and recording system;
- ✓ Introduction to MEL and CDL;

Training module – Flight Performance (PEF)

Module subjects:

- ✓ Certification standards;
- ✓ Operational regulations;
- ✓ General performance theory;
- ✓ Influencing variables on performance;
- ✓ Take-off performance class A (CAR 25);
- ✓ Take-off distances;
- ✓ Accelerate-stop distance;
- ✓ Balanced field length concept;
- ✓ Take-off climb;
- ✓ Obstacle-limited take-off;
- ✓ Performance-limited take-off mass;
- ✓ Use of reduced and de rated thrust;
- ✓ Climb and descent;
- ✓ Cruise;

- ✓ Cost index;
- ✓ Drift down;
- ✓ Approach and landing based on CAR 25;
- ✓ Quick turnaround limits.

Training module – Air Traffic Control and Communications (ATC)

Module subjects:

- ✓ History of ATC;
- ✓ ATC components and tools - Ground Control, Departure Control, Approach Control, Area Control, etc.);
- ✓ ATC functions and responsibility;
- ✓ ATC methods;
- ✓ ATC clearances, sequence;
- ✓ Flight Information Regions (FIRs);
- ✓ ATIS;
- ✓ Primary and secondary radar;
- ✓ Transponder operation;
- ✓ Vertical separation - RVSM;
- ✓ TCAS/ACAS operation;
- ✓ Airspace types, controlled and uncontrolled airspace;
- ✓ Holding, minimum fuel advisory, other related abnormal procedures;
- ✓ Introduction to airport signs and markings;
- ✓ Radio communications principles;
- ✓ Aviation phraseology used in communications;
- ✓ Weather effect of radio reception.

Training module – Navigation (NAV)

Module subjects:

- ✓ Basic navigational aspects, basic forms of navigation;
- ✓ Coordinate systems (latitude, longitude);
- ✓ Time and time conversions;
- ✓ Determining sunrise, sunset, civil twilight;
- ✓ Daylight Operations;
- ✓ North references and courses;
- ✓ Introduction to heading, course, track, bearing terms;
- ✓ Flight Management System (FMS);
- ✓ GNSS;
- ✓ RNAV and RNP;
- ✓ Precision based navigation (PBN);
- ✓ Means of electronic radio navigation in aviation;
- ✓ HF, VHF, UHF radio operation principles;
- ✓ Radio navigation beacons - NDB, VOR, VORTAC, TACAN, DME etc;
- ✓ Short Range Navigation System;
- ✓ Long Range Navigation System;
- ✓ ILS concept and operation, localizer operation;
- ✓ ILS categories and equipment;
- ✓ Marker beacons;
- ✓ Precision and non-precision approaches;
- ✓ Standard Instrument Departure routes (SID);
- ✓ Standard Terminal Arrival Routes (STARs);
- ✓ GPS WAAS approaches, Satellite augmentation system;
- ✓ Other instrument approaches, e.g. GCA - ASR, PSR;
- ✓ Introduction to ADS-B technology;
- ✓ Circling approaches;
- ✓ GNSS SIDs, STARs and approaches;
- ✓ Introduction to navigational charts;
- ✓ Aerodrome information charts (Jeppesen, Lido);
- ✓ SID charts (Jeppesen, Lido);
- ✓ En-route charts (Jeppesen, Lido)

- ✓ STAR charts and approach plates (Jeppesen, Lido);
- ✓ Introduction to FIRs, UIRs, airway structure;
- ✓ Restricted and segregated areas;
- ✓ North Atlantic High-Level Airspace (NAT HLA) - description, equipment requirements and related air routes;
- ✓ Organized Track Systems (OTS)
- ✓ Introduction to ADS-C technology;
- ✓ SATCOM, ACARS, CPDLC, Datalink operation principles;
- ✓ Receiver autonomous integrity monitoring (RAIM);

Training module – Operational Procedures (OPR)

Module subjects:

- ✓ Operation of aircraft;
- ✓ Operational limitations and minima;
- ✓ Operator responsibility;
- ✓ Aircraft maintenance planning and control basics;
- ✓ Minimum aircraft installations and equipment – rules and requirements of use;
- ✓ Duty time limitations and rest requirements;
- ✓ Flight planning basics;
- ✓ Flight management;
- ✓ Airspace classification and operation over special use airspaces;
- ✓ Operational flight plan;
- ✓ Hazards and special operation;
- ✓ Noise abatement procedures;
- ✓ Cold weather operation;
- ✓ Direct operating costs (DOCs) – variable and fixed;
- ✓ Network planning basics;
- ✓ Flight scheduling basics;
- ✓ Crew planning basics;
- ✓ Crew control basics;
- ✓ Communication systems and procedures;
- ✓ Flight monitoring and tracking;