LONDON INTERNATIONAL SCHOOL FOR AVIATORS

AVIATION TRAINING PROGRAMS

Pilot & Flight Operations Training

Syllabus prepared by industry experts, with strong consideration of UK and international requirements.

Table of Contents

Contents

Pilot & Flight Operations Training

Module 1: Theoretical Knowledge

Aerodynamics & Flight Controls
- Aerodynamic principles
- Flight control systems
- Aircraft stability & control

Aircraft Systems
- Engine systems
- Electrical systems
- Hydraulic systems
- Fuel systems
- Environmental control systems

Meteorology
- Atmospheric conditions
- Weather patterns
- Aviation weather hazards

Navigation & Airborne Instruments
- Navigation principles
- Airborne instruments
- Flight planning & navigation

Air Law & Regulations
- ICAO regulations
- National regulations
- Aviation law & ethics

Human Factors & CRM
- Human performance & limitations
- Crew resource management
- Threat & error management

Aircraft Performance
- Aircraft performance characteristics
- Takeoff & landing performance
- Flight planning & monitoring

Flight Planning & Monitoring
- Flight planning principles
- Route planning & navigation
- Fuel management & monitoring

Module 2: Flight Training

Pre-flight Checks & Procedures
- Aircraft inspection
- Pre-flight briefing
- Safety checks

Basic Flying Skills
- Takeoff & landing
- Turns, climbs, & descents
- Straight & level flight

Instrument Flying & Navigation
- Instrument flying principles
- Navigation & tracking
- Instrument approach procedures

Emergency Procedures & Safety Protocols
- Emergency landing procedures
- System failures & malfunctions
- Safety protocols & emergency response

Cross-Country Flights & Route Planning
- Route planning & navigation
- Cross-country flight procedures
- Weather considerations

Module 3: Simulator Training

Normal & Abnormal Operations

- Normal operating procedures
- Abnormal operating procedures
- System failures & malfunctions

Emergency Procedures

- Emergency landing procedures
- System failures & malfunctions
- Safety protocols & emergency response

Instrument Approach & Landing Procedures

- Instrument approach procedures
- Landing procedures
- Go-around procedures

Crew Resource Management

- CRM principles
- CRM principles
- Teamwork & communication

Module 4: Type Rating Training (specific aircraft)

Aircraft Systems & Operations

- Aircraft systems
- Operating procedures
- Performance characteristics

Simulator Training

- Type-specific procedures
- Normal & abnormal operations
- Emergency procedures

Line-Oriented Flight Training (LOFT)

- LOFT principles
- Scenario-based training
- Debriefing & feedback

RVSM
(Reduced Vertical Separation Minimum)

Module 1: RVSM Overview

Introduction to RVSM

- Concept & benefits of RVSM
- Regulatory background & requirements

RVSM Regulations & Requirements

- ICAO RVSM regulations
- National regulations & requirements
- Aircraft certification & approval

Module 2: RVSM Operations

RVSM Airspace & Procedures

- RVSM airspace definition
- Entry & exit procedures
- Flight planning & monitoring

Crew Procedures & Protocols

- Pre-flight checks & briefing
- In-flight procedures & monitoring
- Emergency procedures & response

Aircraft Systems & Equipment

- RVSM-approved altimetry systems
- Aircraft performance & limitations
- System failures & malfunctions

Module 3: RVSM Training

Ground Training

- RVSM principles & regulations
- Aircraft systems & equipment
- Crew procedures & protocols

Line-Oriented Flight Training (LOFT)

- RVSM scenarios & exercises
- Crew resource management
- Debriefing & feedback

Simulator Training

- RVSM operations & procedures
- System failures & malfunctions
- Emergency procedures & response

Pilot Training Ground Classes

Module 1: Aircraft Systems

Aircraft Structure & Components

- Airframe & materials
- Wings & control surfaces
- Landing gear & brakes

Powerplant & Propulsion

- Engine types & principles
- Propeller systems
- Fuel systems & management

Electrical & Avionics Systems

- Electrical systems & components
- Avionics systems & equipment
- Communication & navigation systems

Module 2: Aerodynamics & Flight Controls

Aerodynamic Principles

- Airflow & forces
- Lift & drag
- Thrust & weight

Flight Control Systemst

- Primary & secondary controls
- Stability & control
- Flight control systems & automation

Module 3: Meteorology

Atmospheric Conditionst

- Atmospheric structure & composition
- Weather patterns & phenomena
- Aviation weather hazards

Weather Forecasting & Reporting

- Weather forecasting principles
- Aviation weather reports & forecasts
- Weather briefing & planning

Module 4: Navigation & Airborne Instruments

Navigation Principles

- Navigation systems & equipment
- Chart reading & interpretation
- Route planning & navigation

Airborne Instruments & Systems

- Instrument types & functions
- Instrument flying principles
- System failures & malfunctions

Module 5: Air Law & Regulations

Aviation Regulations & Requirements

- ICAO regulations & standards
- National regulations & requirements
- Aviation law & ethics

Air Traffic Management & Procedures

- Air traffic control procedures
- Airspace rules & regulations
- Emergency procedures & response

Module 6: Human Factors & CRM

Human Performance & Limitations

- Human factors & performance
- Fatigue & stress management
- Crew resource management

Crew Resource Management (CRM)

- CRM principles & practices
- Teamwork & communication
- Threat & error management

NAT (North Atlantic) HLA (High Level Airspace) training

Module 1: NAT HLA Overview

Introduction to NAT HLA

- NAT HLA concept & benefits
- Regulatory background & requirements
- Airspace structure & organization

NAT HLA Regulations & Requirements

- ICAO regulations & standards
- National regulations & requirements
- Aircraft certification & approval

Module 2: NAT HLA Operations

Flight Planning & Preparation

- Route planning & selection
- Weather forecasting & briefing
- Fuel planning & management

NAT HLA Procedures & Protocols

- Entry & exit procedures
- Communication & navigation procedures
- Emergency procedures & response

Aircraft Systems & Equipment

- Required equipment & systems
- System failures & malfunctions
- Maintenance & inspection requirements

Module 3: NAT HLA Navigation & Communication

Navigation Systems & Procedures

- Navigation systems & equipment
- Navigation accuracy & integrity
- Route monitoring & correction

Communication Procedures & Protocols

- HF & SATCOM communication
- Communication procedures & protocols
- Emergency communication procedures

Module 4: NAT HLA Safety & Security

Safety Considerations & Procedures

- Safety risks & hazards
- Safety procedures & protocols
- Emergency response & contingency planning

Security Considerations & Procedures

- Security risks & threats
- Security procedures & protocols
- Incident response & reporting

RTR (Radio Telephony) classes

Module 1: Radio Communication Principles

Radio Communication Basics

- Radio frequency bands & allocation
- Modulation & demodulation
- Transmitters & receivers

Aviation Radio Communication

- Aviation frequency bands
- Communication equipment & systems
- Antenna systems & propagation

Module 2: Radio Telephony Procedures

Standard Phraseology & Procedures

- ICAO standard phraseology
- National regulations & requirements
- Emergency procedures & response

Communication Techniques & Protocols

- Clear & concise communication
- Readback & confirmation
- Communication with ATC & other aircraft

Module 3: Aviation English Language

Aviation English Basics

- Aviation terminology & vocabulary
- Grammar & pronunciation
- Communication skills & techniques

Practical Communication Scenarios

- Routine communication scenarios
- Emergency communication scenarios
- Role-playing exercises

Module 4: Regulatory Requirements & Safety

Regulatory Requirements

- ICAO regulations & standards
- National regulations & requirements
- Licensing & certification requirements

Safety Considerations & Procedures

- Safety risks & hazards
- Safety procedures & protocols
- Emergency response & contingency planning

RNAV (Area Navigation) training

Module 1: RNAV Principles & Concepts

Introduction to RNAV

- RNAV concept & benefits
- Regulatory background & requirements
- RNAV navigation systems & equipment

RNAV Navigation Principles

- Navigation accuracy & integrity
- RNAV path definition & construction
- RNAV flight planning & monitoring

Module 2: RNAV Operations & Procedure

RNAV Airspace & Routes

- RNAV airspace classification
- RNAV route structure & designation
- RNAV entry & exit procedures

RNAV Navigation & Guidance

- RNAV navigation systems & equipment
- Lateral & vertical navigation
- RNAV path following & tracking

RNAV Approach & Landing Procedures

- RNAV approach types & procedures
- RNAV landing & rollout procedures
- RNAV missed approach procedures

Module 3: RNAV Aircraft Systems & Equipment

RNAV Navigation Systems

- RNAV navigation system types
- System components & architecture
- System operation & functionality

RNAV Aircraft Equipment & Certification

- RNAV equipment requirements
- Aircraft certification & approval
- System maintenance & inspection

Module 4: RNAV Safety & Regulatory Requirements

1. RNAV Safety Considerations

- Safety risks & hazards
- Safety procedures & protocols
- Emergency response & contingency planning

Regulatory Requirements

- ICAO regulations & standards
- National regulations & requirements
- RNAV approval & certification requirements

ADSB (Automatic Dependent Surveillance-Broadcast)training

Module 1: ADSB Principles & Concepts

Introduction to ADSB

- ADSB concept & benefits
- Regulatory background & requirements
- ADSB system components & architecture

ADSB System Components

- ADSB transmitter & receiver
- GPS & navigation systems
- Data link & communication protocols

Module 2: ADSB Operations & Procedures

ADSB Airspace & Requirements

- ADSB airspace classification
- ADSB equipment requirements
- ADSB operational procedures

ADSB Data & Reporting

- RNAV navigation systems & equipment
- ADSB data types & formats
- ADSB reporting requirements
- ADSB data integrity & accuracy

Module 3: ADSB Aircraft Systems & Equipment

ADSB Transmitter & Receiver

- ADSB transmitter & receiver types
- System components & architecture
- System operation & functionality

ADSB Aircraft Equipment & Certification

- ADSB equipment requirements
- Aircraft certification & approval
- System maintenance & inspection

Module 4: ADSB Safety & Regulatory Requirements

ADSB Safety Considerations

- Safety risks & hazards
- Safety procedures & protocols
- Emergency response & contingency planning

Regulatory Requirements

- ICAO regulations & standards
- National regulations & requirements
- ADSB approval & certification requirements

PBN (Performance-Based Navigation) & RNP (RequiredNavigation Performance) training

Module 1: PBN & RNP Principles

Introduction to PBN & RNP

- PBN & RNP concepts & benefits
- Regulatory background & requirements
- Navigation performance & accuracy

PBN & RNP Navigation Principles

- Navigation system types & accuracy
- RNAV & RNP navigation principles
- Navigation performance & monitoring

Module 2: PBN & RNP Operations & Procedures

PBN & RNP Airspace & Routes

- PBN & RNP airspace classification
- PBN & RNP route structure & designation
- PBN & RNP entry & exit procedures

PBN & RNP Navigation & Guidance

- PBN & RNP navigation systems & equipment
- Lateral & vertical navigation
- PBN & RNP path following & tracking

PBN & RNP Approach & Landing Procedures

- PBN & RNP approach types & procedures
- PBN & RNP landing & rollout procedures
- PBN & RNP missed approach procedures

Module 3: PBN & RNP Aircraft Systems & Equipment

PBN & RNP Navigation Systems

- PBN & RNP navigation system types
- System components & architecture
- System operation & functionality

PBN & RNP Aircraft Equipment & Certification

- PBN & RNP equipment requirements
- Aircraft certification & approval
- System maintenance & inspection

Module 4: PBN & RNP Safety & Regulatory Requirementst

PBN & RNP Safety Considerations

- Safety risks & hazards
- Safety procedures & protocols
- Emergency response & contingency planning

Regulatory Requirements

- ICAO regulations & standards
- National regulations & requirements
- PBN & RNP approval & certification requirements

CAT II/CAT III & ILS training

Module 1: ILS & CAT II/III Principles

Introduction to ILS & CAT II/III

- ILS & CAT II/III concepts & benefits
- Regulatory background & requirements
- ILS & CAT II/III system components & architecture

ILS & CAT II/III System Components

- Localizer & glide slope systems
- Marker beacons & DME
- CAT II/III equipment & requirements

Module 2: ILS & CAT II/III Operations & Procedures

ILS & CAT II/III Approach Procedures

- ILS approach types & procedures
- CAT II/III approach & landing procedures
- ILS & CAT II/III missed approach procedures

CAT II/III Operations & Requirements

- CAT II/III operational requirements
- Aircraft equipment & certification
- Crew training & qualification

Module 3: ILS & CAT II/III Aircraft Systems & Equipment

ILS & CAT II/III Navigation Systems

- ILS & CAT II/III navigation system types
- System components & architecture
- System operation & functionality

CAT II/III Aircraft Equipment & Certification

- CAT II/III equipment requirements
- Aircraft certification & approval
- System maintenance & inspection

Module 4: ILS & CAT II/III Safety & Regulatory Requirements

ILS & CAT II/III Safety Considerations

- Safety risks & hazards
- Safety procedures & protocols
- Emergency response & contingency planning

Regulatory Requirements

- ICAO regulations & standards
- National regulations & requirements
- ILS & CAT II/III approval & certification requirements