



LONDON 
INTERNATIONAL 
SCHOOL FOR AVIATORS

INTERNATIONAL AVIATION DIGITAL COMPETENCY SYLLABUS

**Digital Aviation Maintenance &
Operations Programme (DAMOP)**

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



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MODULE 1: Digital Literacy for Aviation Professionals

Objective:

Provide baseline digital competency for aviation maintenance environments.

Topics:

1. Computer hardware fundamentals
 2. Operating systems (Windows/Linux basics)
 3. Digital Techniques
 4. Aviation IT infrastructure overview
 5. Cloud computing in aviation
 6. Network basics (LAN/WAN, VPN, secure access)
 7. Cyber hygiene for engineers
 8. Data privacy & regulatory compliance (GDPR equivalent concepts)
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MODULE 2: Aviation Maintenance Information Systems (AMIS)

Objective:

Train on digital MRO & CAMO systems used globally.

Topics:

1. MRO software overview:
 - AMOS
 - Ramco
 - TRAX
 - Rusada
 - Quantum
 - CAMP

2. Work Order management systems
3. Task card digital control
4. Component tracking systems
5. MEL / CDL digital management
6. Technical log electronic systems (ETL)
7. Aircraft Health Monitoring Systems (AHMS)

Practical:

- Simulated digital work pack creation
 - Digital CRS issuance simulation
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MODULE 3: Electronic Technical Documentation & Digital Manuals

Objective:

Ensure engineers can work fully paperless.

Topics:

1. ATA iSpec 2200 structure
2. S1000D documentation system
3. e-AMM, e-SRM, e-WDM usage
4. IPC digital navigation
5. SB / AD tracking software
6. Document control systems
7. Revision status monitoring
8. Digital record retention requirements

Hands-on:

- Using interactive AMM
 - Searching task in IPC
 - Compliance recording
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MODULE 4: Aircraft Digital Systems & Avionics IT Integration

Objective:

Prepare for modern glass cockpit & data-based aircraft.

Topics:

1. ARINC standards
 2. Digital data buses (ARINC 429, 629, AFDX)
 3. Fly-by-wire systems
 4. FADEC & digital engine control
 5. ACARS
 6. ADS-B systems
 7. FMS architecture
 8. Aircraft server systems
 9. Wireless QAR systems
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MODULE 5: Aircraft Health Monitoring & Predictive Maintenance

Objective:

Meet Industry 4.0 aviation standards.

Topics:

1. Condition-based maintenance (CBM)
 2. Predictive maintenance models
 3. Engine trend monitoring
 4. HUMS systems
 5. Digital fault analysis
 6. Big data in aviation
 7. Reliability software tools
 8. AI in maintenance forecasting
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MODULE 6: Aviation Cybersecurity & Data Protection

Objective:

Comply with global aviation cyber frameworks.

Topics:

1. Aviation cyber threats
 2. Aircraft network security
 3. Maintenance IT system protection
 4. E-enabled aircraft risks
 5. ICAO Annex 17 cybersecurity principles
 6. FAA cybersecurity advisory circulars
 7. EASA cyber compliance (Part-IS emerging requirements)
 8. Incident reporting procedures
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MODULE 7: Digital Compliance Monitoring & SMS

Integration

Objective:

Train Quality & Compliance personnel in digital oversight.

Topics:

1. Electronic audit management systems
 2. e-SMS reporting platforms
 3. Occurrence reporting systems
 4. Risk management software
 5. Data-driven safety dashboards
 6. KPI monitoring
 7. Just culture digital reporting
 8. Root cause analysis software tools
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MODULE 8: Aviation Data Analytics & Reporting

Objective:

Develop analytical capability in maintenance operations.

Topics:

1. Excel advanced (Pivot, macros)
2. Power BI basics
3. Data visualization
4. Reliability analysis
5. MTBF / MTTR computation
6. Trend analysis
7. Fleet performance metrics
8. Budget tracking tools

Practical:

- Create reliability report
 - Build maintenance KPI dashboard
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MODULE 9: Digital Supply Chain & Logistics Management

Objective:

Modern aviation inventory & digital part traceability.

Topics:

1. ERP systems
2. Digital part traceability
3. EASA Form 1 digital validation
4. FAA 8130-3 tracking
5. Blockchain in aviation parts
6. Barcoding / RFID systems
7. Tool control software

8. Calibration tracking systems
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MODULE 10: Electronic Signatures & Digital Certification

Objective:

Prepare certifying staff for paperless release systems.

Topics:

1. Electronic CRS
 2. Digital authentication
 3. FAA electronic records compliance
 4. DGCA digital logbook compliance
 5. Audit trail security
 6. Legal aspects of digital certification
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MODULE 11: UAV / eVTOL Digital Systems (Future Ready)

Objective:

Prepare for modernization.

Topics:

1. Drone maintenance software
 2. UTM systems
 3. Electric propulsion monitoring
 4. Battery management systems
 5. Remote diagnostics
 6. Autonomous aircraft digital systems
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MODULE 12: Human Factors in Digital Maintenance

Objective:

Prevent digital-induced errors.

Topics:

1. Automation bias
 2. Digital fatigue
 3. Interface design errors
 4. Human-computer interaction
 5. Error reporting in digital systems
 6. Data misinterpretation risks
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MODULE 13: International Regulatory IT Compliance Framework

Comparative study of:

- UK CAA digital documentation
 - FAA electronic record systems
 - EASA Part-145 digital compliance
 - DGCA CAR-145 IT requirements
 - CASA digital safety frameworks
 - GCAA/GACA cyber compliance
 - GCC regulatory IT expectations
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