

Curriculum for AIM Training

Module 2: ARO Officer

1. THE AERONAUTICAL INFORMATION SERVICES

The general objectives are to enable students to:
 Appreciate how the aeronautical information services function;
 Explain how information is collected and distributed

	Topic / Sub-topic	L	Content	Ref. Material
	1.1 Principles of AIS			
1.1.1	Recognise the need for AIS.	1		ICAO Annex; ICAO Doc 8126
1.1.2	Recognise the need for aeronautical information in ATM.	1		ICAO Annex 11
1.1.3	Identify the need for global uniformity.	1		ICAO Annex 15; ICAO Doc 8126
1.1.4	Identify the volume and scope of information handled by AIS.	1		
1.1.5	Differentiate between permanent and temporary information as well as information of an explanatory, advisory or administrative nature.	2	NOTAM and SUP versus AIP, AIP Amendment and AIC.	
	1.2 Organisation of AIS			
1.2.1	Describe the status of AIS within the aviation administration.	2		ICAO Doc 8126
1.2.2	Describe the organisation of the Aeronautical Information Service.	2		ICAO Doc 8126
1.2.3	Explain the liaison with other related services.	2		ICAO Doc 8126
1.2.4	Illustrate the information flow within AIS.	2		ICAO Doc 8126
	1.3 Documentation			
1.3.1	Explain the need for documentation.	2		ICAO Annex 15; National documentation
1.3.2	List the sources of documentation available.	1	ICAO publications, national regulations.	
1.3.3	List the documentation used in AIS.	1	National or local documentation, AIP and SOP.	ICAO Doc 8126
1.3.4	Describe the content of the most frequently used documents in AIS.	2	ICAO SARPs (Annexes), Docs (Procedures for Air Navigation Services), Manuals, Air Navigation Plan Publications, ICAO Doc 8126 other - IATA, ITU, WMO, local or national documentation.	ICAO Doc 8126

1.3.5	List methods to store, locate and retrieve documentation.	1	Electronic form (aeronautical databases), paper copy (manual library).	ICAO Doc 8126
1.4 Responsibilities and functions of AIS				
1.4.1	Specify the responsibilities of a contracting state.	1	Provision of AIS.	ICAO Annex 15
1.4.2	Describe the functions of AIS.	2		ICAO Annex 15
1.4.3	Appreciate the need for the distribution of appropriate information.	2		ICAO Annex 15; ICAO Doc 8126;
1.4.4	Appreciate the need for the authenticity of information to be distributed.	2	Quality Management Systems.	ICAO Annex 15; ICAO Doc 8126
1.4.5	State the originators of raw data.	1	Local originators.	ICAO Doc 8126
1.4.6	List the various types of raw data.	1		ICAO Doc 8126
1.4.7	Describe the exchange of aeronautical information with other services or States.	2		ICAO Annex 15
1.4.8	Describe the means by which aeronautical information is distributed.	2	NOTAM, AIP, AIC, AIRAC, SUP.	
1.4.9	Recognise the information distributed through the AFS.	1	ATS messages, NOTAM, MET, AO, service messages, etc.	

2. ARO and AERODROME AIS UNITS

The general objectives are to enable students to:
 Understand the function of the Air Traffic Services Reporting Office (ARO);
 Understand the function of the Aerodrome AIS Unit;
 Recognise the information required by pilots prior to a flight.

2.1 ATS reporting office and Aerodrome AIS Unit				
2.1.1	State the main functions of an Air Traffic Services Reporting Office (ARO).	1	Flight plan acceptance.	
2.1.2	State the main functions of an Aerodrome AIS Unit.	1	Pre-flight briefing, post flight information.	
2.1.3	Specify the requirements for the physical location of an ARO/Aerodrome AIS Unit.	1		Doc 8126
2.1.4	Describe the coverage zone of an ARO/Aerodrome AIS Unit.	2		Doc 8126
2.1.5	List the detailed information to be held.	1		ICAO Annex 15; ICAO Doc 8126
2.2 Flight plans				
2.2.1	Define flight plan.	1		ICAO Annex 2
2.2.2	Differentiate the types of flight plan.	2	FPL, AFIL, RPL.	ICAO Doc 4444
2.2.3	Recognise ICAO model flight plan form.	1		ICAO Doc 4444
2.2.4	List the items contained in a flight plan.	1	Items and their denomination.	ICAO Annex 2; ICAO Doc 4444
2.2.5	Differentiate the three parts of a flight plan form.	2	Section COM, ATS data and supplementary information.	
2.2.6	Recognise the AFTN format (including supplementary information).	1	AFTN format, Flight plan AFTN message.	ICAO Doc 4444
2.2.7	Describe the conditions under which a flight plan shall be submitted.	2	Rules of the Air; national differences.	ICAO Annex 2
2.2.8	State the times when a flight plan has to be submitted.	1	Rules of the Air; national and regional differences regional differences.	ICAO Annex 2; ICAO Doc 7030
2.2.9	Explain the procedure for the submission of a flight plan.	2		ICAO Doc 4444
2.2.10	List the categories of ATS messages.	1	Emergency, movement/control and flight information messages.	ICAO Doc 4444
2.2.11	List the flight plan associated messages.	1		ICAO Doc 4444
2.3 Flight crew information				
2.3.1	State the responsibility of pilots to obtain pre-flight briefing.	1		ICAO Annex 2; ICAO Annex 6

2.3.2	Be familiar with the flight preparation of a pilot.	0	Aircraft and equipment serviceability. Fuel, passenger and cargo manifest. AIS and MET briefing.	ICAO Annex 6
2.3.3	List methods of briefing.	1	Self-briefing (internet); personal, telephone, fax.	
2.3.4	State the purpose of post-flight information.	1		ICAO Annex 15; ICAO Doc 8126

3. DYNAMIC DATA

The general objectives are to enable students to:

- Describe and explain the purpose, function and significance of dynamic data;
- Prepare, distribute and store outgoing dynamic data;
- Receive process and store incoming dynamic data.

3.1 Significance of dynamic data				
3.1.1	Explain the purpose, function and significance of dynamic data.	2		
3.2 General				
3.2.1	State NOTAM types.	1	NOTAM -N, -R and -C.	ICAO Doc 8126;
3.2.2	Explain the application of NOTAM -N, -R and -C.	2		ICAO Doc 8126;
3.2.3	State NOTAM series and number.			ICAO Annex 15; National series assignment
3.2.4	Describe NOTAM item content.	2	Item Q) and Items A) to G).	ICAO Annex 15
3.2.5	Explain the purpose of NOTAM qualifiers (Q-Line).		NOTAM Selection Criteria (NSC), automation.	ICAO Doc 8126
3.2.6	State the general rules relating to NOTAM qualifiers.	1		ICAO Doc 8126;
3.2.7	Describe the content of NOTAM qualifiers.	2	FIR, NOTAM code, traffic, purpose, scope, lower/upper, geographical reference, radius.	ICAO Annex 15;
3.3 Process foreign dynamic data				
3.3.1	Convert NOTAM received into a correctly formatted system NOTAM.	3		Local procedures
3.3.2	Check all items of incoming NOTAM.	3	Syntax.	Local procedures
3.3.3	Translate Item E into English.	3		Local procedures
3.3.4	Clarify erroneous and/or ambiguous NOTAM content.	3	Check with NOTAM originator.	Local procedures
3.3.5	Check NOTAM sequence.	3	Manually or semi-automatically.	Local procedures
3.3.6	Request missing NOTAM.	3	Investigation, time limit.	Local procedures
3.3.7	Explain the purpose of a NOTAM database.	2	NOTAM production, PIB.	ICAO Doc 8126
3.3.8	Describe NOTAM storage	2	Electronic, manual.	Local procedures
3.3.9	State the area of coverage of a NOTAM database.			
3.3.10	Describe quality control procedures.			
3.3.11	Carry out quality control checks.			

3.3.12	Explain the requirement to redistribute NOTAM.			
3.3.13	Describe procedures for NOTAM re-distribution.			
3.3.14	Address NOTAM for redistribution.			Local procedures
3.3.15	Re-distribute NOTAM.			
3.3.16	Identify foreign checklists.			Local procedures
3.3.17	Describe procedures for comparing foreign checklists with stored NOTAM.		Semi-automatic or manual.	Local procedures
3.3.18	Store foreign NOTAM.			Local procedures
3.4 Publish NOTAM				
3.4.1	Analyse NOTAM proposal for further processing.	3		Local procedures
3.4.2	Allocate NOTAM series, number and type.	3		Local procedures
3.4.3	Encode the qualifier line and all identifiers.	3	NOTAM Selection Criteria.	ICAO Doc 8126; Local procedures
3.4.4	Complete all NOTAM items.	3		ICAO Doc 8126;
3.4.5	Address NOTAM.	3		Local procedures
3.4.6	Describe procedures for NOTAM distribution.	2		Local procedures
3.4.7	Distribute NOTAM.	3		ICAO Doc 8126;
3.4.8	Store published NOTAM in NOTAM database.	3		Local procedures
3.5 Publish NOTAM checklist				
3.5.1	Explain the rules for producing a NOTAM checklist.	2		ICAO Doc 8126; ICAO Annex 15;
3.5.2	Produce a NOTAM checklist.	3	Manual or automatic.	Local procedures;
3.5.3	Address a NOTAM checklist.			Local procedures;
3.5.4	Distribute a NOTAM checklist.			ICAO Doc 8126; Local procedures;
3.5.5	Store published NOTAM checklist in NOTAM database.			Local procedures;
3.6 Publish Trigger NOTAM				
3.6.1	Explain the purpose of 'trigger' NOTAM.			
3.6.2	Describe 'trigger' NOTAM procedures relevant to AIRAC Amendment.			ICAO Doc 8126; Local procedures
3.6.3	Describe trigger NOTAM procedures relevant to AIP Supplements.			ICAO Doc 8126; Local procedures
3.6.4	Produce 'trigger' NOTAM.			ICAO Doc 8126
3.6.5	Address 'trigger' NOTAM.			Local procedures
3.6.6	Distribute 'trigger' NOTAM.			Local procedures
3.6.7	Store the published 'trigger' NOTAM checklist in the NOTAM database.			Local procedures

3.7 Publish SNOWTAM				
3.7.1	Explain the purpose of 'SNOWTAM'.	2		ICAO Annex 15;
3.7.2	Name the originator(s) of raw data for SNOWTAM.	1		
3.7.3	Describe the methods of obtaining raw data for SNOWTAM.	2		
3.7.4	Describe the methods by which data for SNOWTAM is transmitted to AIS.	2		
3.7.5	Complete SNOWTAM form.	3		
3.7.6	Address SNOWTAM.	3		
3.7.7	Distribute SNOWTAM.	3		
3.7.8	Store the published SNOWTAM in NOTAM database.	3		
3.8 Publish ASHTAM				
3.8.1	Explain the purpose of 'ASHTAM'.	2		Local procedures
3.8.2	Name the originator(s) of raw data for ASHTAM.	1		Local procedures
3.8.3	Explain the methods of obtaining raw data for ASHTAM.	2		Local procedures
3.8.4	Describe the methods by which data for ASHTAM is transmitted to AIS.	2		Local procedures
3.8.5	Complete ASHTAM format.	3		ICAO Annex 15; Local procedures
3.8.6	Address ASHTAM.	3		Local procedures
3.8.7	Describe procedures for ASHTAM distribution.	2		Local procedures
3.8.8	Distribute ASHTAM.	3		Local procedures
3.8.9	Store published ASHTAM in NOTAM database.	3		Local procedures
3.9 Produce PIB				
3.9.1	Describe the content of an area bulletin.	2	NOTAM, ASHTAM.	ICAO Doc 8126
3.9.2	Describe the content of a route bulletin.	2	NOTAM, ASHTAM.	ICAO Doc 8126
3.9.3	Describe the content of an aerodrome bulletin.	2	NOTAM, SNOWTAM, METAR, TAF.	ICAO Doc 8126
3.9.4	Describe the content of an administrative bulletin.	2		ICAO Doc 8126
3.9.5	Explain the procedure for the preparation of a PIB.	2		ICAO Doc 8126
3.9.6	Access relevant data for PIB production.	3		Local procedures
3.9.7	Retrieve selected data for PIB production.	3		Local procedures
3.9.8	Compile PIB.	3		Local procedures
3.9.9	Transmit PIB to customer.	3		Local procedures
3.10 Prepare tailored dynamic data				

3.10.1	Access relevant data for tailored dynamic data production.	3		Local procedures
3.10.2	Retrieve selected data for tailored dynamic data production.	3		Local procedures
3.10.3	Compile tailored dynamic data.	3		Local procedures
3.10.4	Transmit tailored dynamic data to customer.	3		Local procedures

4. ARO FUNCTIONS

The general objectives are to enable students to:

- Receive, verify and process incoming data;
- Prepare and conduct an appropriate and complete briefing.

4.1 Process FPL and FPL associated messages				
4.1.1	Explain all the items of a flight plan form.	2	Items and their content.	ICAO Doc 4444
4.1.2	State the cruising speeds of the most common types of aircraft.	1	Especially the most common local aircraft.	Local procedures
4.1.3	Decode FPL items.	3		ICAO Doc 4444
4.1.4	Encode FPL items.	3		ICAO Doc 4444
4.1.5	Verify all items of a flight plan.	3		ICAO Doc 4444;
4.1.6	Describe the procedures for addressing a flight plan.	2		ICAO Doc 7910;
4.1.7	Address a flight plan.	3		ICAO Doc 7910;
4.1.8	Apply the flight plan filing time procedures.	3	1hr, 3hr and national regional and local regulations, delays and earlier departures.	ICAO Annex 2; National AIP; ICAO Doc 7030;
4.1.9	Apply flight plan transmission procedures.	3	e.g. AFTN format, local procedures.	ICAO Doc 4444; ICAO Annex 10
4.1.10	List relevant CFMU limitations when filing a flight plan.	1	CIA, ANM, CRAM, AIM, SLOT, etc. RAD and ENV database.	
4.1.11	Describe the categories of ATS messages.	2	ATS or FPL.	ICAO Doc 4444
4.1.12	Differentiate the types of ATS messages and their designator.	2	ATS or FPL.	ICAO Doc 4444
4.1.13	Prepare flight plan associated messages.	3		ICAO Doc 4444
4.1.14	Address FPL associated messages.	3		ICAO Doc 4444
4.1.15	Apply flight plan associated messages transmission procedures.	3	AFTN format, local procedures.	ICAO Doc 4444; ICAO Annex 10
4.1.16	Prepare supplementary messages.	3		ICAO Doc 4444
4.1.17	Address supplementary messages.	3		ICAO Doc 4444
4.1.18	Apply supplementary messages transmission procedures.	3	AFTN format, local procedures.	ICAO Doc 4444; ICAO Annex 10
4.1.19	Describe methods of storage for a flight plan and ATS messages.	2	Manual or electronic.	Local procedures
4.1.20	Store flight plan and ATS messages.	3		Local procedures
4.1.21	Explain the purpose of a repetitive flight plan (RPL).	2		ICAO Doc 4444
4.1.22	Describe all the items contained in a RPL.	2		ICAO Doc 4444
4.1.23	Explain the collection, storage and processing of RPL data.	2	Manual or electronic.	ICAO Doc 4444; ICAO Annex 10;
4.1.24	Explain the implications for a flight plan with a special status.	2	STS/HOSP, Head of State, EXM833, etc.	

4.2 Provide information for flight preparation				
4.2.1	List the content of pre-flight information.	1	NOTAM, SNOWTAM, ASHTAM, NAT tracks, MET info, charts, ATFM messages, national publications.	
4.2.2	Explain the scope of the available briefing material.	2		
4.2.3	Appreciate the significance of a briefing for the customer.	2		
4.2.4	Locate the required information in the appropriate documentation.	3	AIP, AIC, Charts, etc.	
4.2.5	Retrieve required information from the data base.	3	VFR, IFR, national or international flight, etc.	
4.2.6	Communicate the required information to the customer using the appropriate technique.	3	Compile and print out, face to face, fax, phone, email, etc.	
4.2.7	Provide additional information on request.	3	Update service.	
4.3 Accept post-flight information and transmit it to ATS/AIS				
4.3.1	Accept post-flight information.	3	Incident/accident reports, landing information and general in-flight reports.	ICAO Annex 15; ICAO Doc 8126
4.3.2	Transmit post-flight information to ATS/AIS.	3		Local procedures
4.4 Support incident investigation (ARO side)				
4.4.1	Explain the procedures for the handling of an incident report form.	2		ICAO Doc 4444; ICAO Doc 9426; Local procedures; National AIP
4.4.2	Accept incident report forms.	3		Local procedures
4.4.3	Transmit the incident report forms to the appropriate authority.	3		Local procedures
4.4.4	Describe the procedures applicable in support of investigations.	2	Role of ARO in conjunction with other units and or police.	Local procedures
4.4.5	Apply the procedures applicable in support of investigations.	3		Local procedures
4.5 Compile statistical data				
4.5.1	List the type of statistical data required from ARO.	1		Local procedures

5. COORDINATION

The general objectives are to enable students to:

- Identify when co-ordination has to be performed;
- Conduct coordination in an appropriate manner.

5.1 General				
5.1.1	Explain the need for co-ordination.	2		
5.1.2	Explain the methods of coordination.	2	Face to face, phone, fax, email, internet, standardised procedures, language used, records/log sheet, etc.	Local procedures
5.1.3	Use appropriate coordination techniques.	3	Verbal, written etc.	Local procedures
5.1.4	Describe the interaction with other data systems.	2	Data links, EAD, pre-flight database, online applications etc.	Local procedures
5.2 Co-ordinate with data sources				
5.2.1	Clarify erroneous and/or ambiguous content with the source of the data.	3	SLA's	Local procedures;
5.2.2	Request missing elements.	3	SLA's	Local procedures
5.3 Co-ordinate between AIS functions				
5.3.1	Describe the principle functions within AIS.	2	AIS functions.	ICAO Doc 8126
5.3.2	Determine when/what to coordinate with other AIS functions.	3	AIS functions at local and adjacent units.	Local procedures
5.4 Co-ordinate with customers				
5.4.1	List the principle customers of an AIS unit.	1	AOs, private pilots, ATC, handling companies, other AIS units local/foreign etc.	ICAO Doc 8126
5.4.2	Characterise the customers of the AIS unit.	2	e.g. Professional, non-professional, frequent or infrequent user, etc.	
5.4.3	Describe co-ordination procedures with ATS units.	2	TWR, APP, ACC, FIC, SLA's.	Local procedures
5.4.4	Describe co-ordination procedures with other agencies/services.	2	MET, technical services, aircraft operators, CFMU, regulator, SLA's etc.	ICAO Doc 9377; Local procedures;
5.4.5	Communicate the required information to the customer.	3		Local procedures
5.4.6	Clarify the meaning of the information provided, if requested.	3		Local procedures
5.4.7	Provide any additional information if requested.	3		Local procedures

5.5 Human factors aspects in co-ordination				
5.5.1	State factors affecting the quality of communication.	1		ICAO Doc 9683
5.5.2	Identify communication and thinking patterns.	1		
5.5.3	Explain common behavioural patterns of customers.	2		
5.5.4	Select the appropriate way for dealing with customers.	3		
5.5.5	Apply the rules for concise communication.	3		
5.5.6	Demonstrate correct behaviour in a conflict situation.	3		
5.5.7	Demonstrate correct handling of customer complaints.	3		