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EUROCONTROL

EUROCONTROL Specification

EUROCONTROL Specifications for the ATCO Common Core Content Initial Training

Annex 3: Aerodrome Control Instrument Rating for Tower - ADI (TWR)

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EUROPEAN ORGANISATION
FOR THE SAFETY OF AIR NAVIGATION

EUROCONTROL

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Specification for the ATCO Common Core Content Initial Training

Annex 3
Aerodrome Control Instrument Rating for Tower
ADI (TWR)

Edition Number	**:**	**2.0**
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NETWORK MANAGER DIRECTORATE

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EXECUTIVE SUMMARY

Annex 3 of the EUROCONTROL Specification for the ATCO Common Core Content Initial Training V2.0 details the training objectives for the **Rating ATC training: Aerodrome Control Instrument Rating for Tower**.

For training organisations providing ATCO training to meet the requirements laid down in the **Commission Regulation (EU) 2015/340 laying down technical requirements and administrative procedures relating to air traffic controllers' licences and certificates**, and the acceptable means of compliance (AMCs) associated with the regulation, this syllabus does not change any of the content in the regulation, but rather provides a document that combines the relevant elements into a familiar user format. For European organisations not required to comply with EU legislation, it provides an **Aerodrome Control Instrument Rating for Tower training syllabus** that retains references to ICAO documentation.

Rating training is defined ***as theoretical and practical training designed to impart knowledge and practical skills related to a specific rating and, if applicable, rating endorsement.***

The composition and topics were chosen based on the **Commission Regulation (EU) 2015/340** Annex I — Rating training (Reference: Annex I — Part ATCO Subpart D, Section 2, ATCO.D.010(a)(2)(ii)) and ICAO Annex 1 requirements for an Air Traffic Control licence. The structure of the syllabus reflects a logical grouping of objectives into coherent subjects.

The order of subjects and objectives is neither intended to convey a pedagogical sequence nor to indicate a relative level of importance. No recommendation is made in this area. When teaching the objectives, it is envisaged that different training methodologies will be used.

Prior to developing or updating the **ADI (TWR) Rating training course,** training providers must be familiar with the information contained in the EUROCONTROL Specification for the ATCO Common Core Content Initial Training V2.0, particularly Section 6 (How to use this document) which contains, amongst other items, the fundamental principles that are applied to the Specification.

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SUBJECT 1: INTRODUCTION TO THE COURSE

The subject objective is:

Learners shall know and understand the training programme that they will follow and learn how to obtain the appropriate information.

TOPIC INTR 1 - COURSE MANAGEMENT

Subtopic INTR 1.1 - Course introduction				
ADI INTR 1.1.1	Explain the aims and main objectives of the course.	2		ALL
Subtopic INTR 1.2 - Course administration				
ADI INTR 1.2.1	State course administration.	1		ALL
Subtopic INTR 1.3 - Study material and training documentation				
ADI INTR 1.3.1	Use appropriate documentation and their sources for course studies.	3	*Optional content: training documentation, library, CBT library, web, learning management server*	ALL
ADI INTR 1.3.2	Integrate appropriate information into course studies.	4	Training documentation *Optional content: supplementary information, library*	ALL

TOPIC INTR 2 - INTRODUCTION TO THE ATC TRAINING COURSE

Subtopic INTR 2.1 - Course content and organisation				
ADI INTR 2.1.1	State the different training methods applied in the course.	1	Theoretical training, practical training, self-study, types of training events	ALL
ADI INTR 2.1.2	State the subjects of the course and their purpose.	1		ALL
ADI INTR 2.1.3	Describe the organisation of theoretical training.	2	*Optional content: course programme*	ALL
ADI INTR 2.1.4	Describe the organisation of practical training.	2	*Optional content: PTP, simulation, briefing, debriefing, course programme*	ALL
Subtopic INTR 2.2 - Training ethos				
ADI INTR 2.2.1	Recognise the feedback mechanisms available.	1	Training progress, assessment, briefing, debriefing, learner/instructor feedback, instructor/instructor feedback	ALL

Subtopic INTR 2.3 - Assessment process			
ADI INTR 2.3.1	Describe the assessment process.	2	ALL

SUBJECT 2: AVIATION LAW

The subject objective is:

Learners shall know, understand and apply the Rules of the Air and the Regulations regarding reporting, airspace and appreciate the Licensing and Competence principles.

TOPIC LAW 1 - ATCO LICENSING/CERTIFICATE OF COMPETENCE

Subtopic LAW 1.1 - Privileges and conditions

ADI LAW 1.1.1	Appreciate the conditions which shall be met to issue an Aerodrome Control Instrument rating with Tower Control endorsement.	3	Regulation (EU) 2015/340 on ATCO Licences ICAO Annex 1 *Optional content: national documents*	ADI
ADI LAW 1.1.2	Explain how to maintain and update professional knowledge and skills to retain competence in the operational environment.	2		ALL
ADI LAW 1.1.3	Explain the conditions for suspension/revocation of ATCO licence.	2	Regulation (EU) 2015/340 on ATCO Licences ICAO Annex 1	ALL

TOPIC LAW 2 - RULES AND REGULATIONS

Subtopic LAW 2.1 - Reports

ADI LAW 2.1.1	List the standard forms for reports.	1	Air traffic incident report *Optional content: routine air reports, breach of regulations, watch/log book, records*	ALL
ADI LAW 2.1.2	Describe the functions of, and processes for, reporting.	2	Reporting culture, air traffic incident report *Optional content: breach of regulations, watch/log book, records, voluntary reporting, ESARR 2*	ALL
ADI LAW 2.1.3	Use forms for reporting.	3	Regulation (EU) No 376/2014, air traffic incident reporting form(s) ICAO Doc 4444 Appendix 4, air traffic incident reporting form(s) *Optional content: routine air reports, breach of regulations, watch/log book, records*	ALL

Subtopic LAW 2.2 - Airspace				
ADI LAW 2.2.1	Appreciate classes and structure of airspace and their relevance to Aerodrome Control Instrument rating with Tower Control endorsement operations.	3		ADI
ADI LAW 2.2.2	Provide planning, coordination and control actions appropriate to the airspace classification and structure.	4	*Optional content: Regulation (EU) No 923/2012, ICAO Annex 2, ICAO Annex 11, international requirements, civil requirements, military requirements, areas of responsibility, sectorization, national requirements*	ALL
ADI LAW 2.2.3	Appreciate responsibility for terrain clearance.	3		ALL

TOPIC LAW 3 - ATC SAFETY MANAGEMENT

Subtopic LAW 3.1 - Feedback process				
ADI LAW 3.1.1	State the importance of controller contribution to the feedback process.	1	*Optional content: voluntary reporting*	ALL
ADI LAW 3.1.2	Describe how reported occurrences are analysed.	2	*Optional content: ESARR 2, local procedures*	ALL
ADI LAW 3.1.3	Name the means used to disseminate recommendations.	1	*Optional content: safety letters, safety boards web pages*	ALL
ADI LAW 3.1.4	Appreciate the 'Just Culture' concept.	3	Benefits, prerequisites, constraints *Optional content: EAM 2 GUI 6, GAIN Report*	ALL
Subtopic LAW 3.2 - Safety Investigation				
ADI LAW 3.2.1	Describe role and mission of Safety Investigation in the improvement of safety.	2		ALL
ADI LAW 3.2.2	Define working methods of Safety Investigation.	1		ALL

SUBJECT 3: AIR TRAFFIC MANAGEMENT

The subject objective is:

Learners shall manage air traffic to ensure safe, orderly and expeditious services.

TOPIC ATM 1 - PROVISION OF SERVICES

Subtopic ATM 1.1 - Aerodrome control service				
ADI ATM 1.1.1	Appreciate areas of responsibility.	3	Control zone, traffic circuit, manoeuvring area, movement area, vicinity *Optional content: ATZ*	ADV ADI
ADI ATM 1.1.2	Provide aerodrome control service.	4	Regulation (EU) No 923/2012, ICAO Annex 11, ICAO Doc 7030, ICAO Doc 4444, operation manuals ICAO Annex 11, ICAO Doc 7030, ICAO Doc 4444, operation manuals	ADV ADI
Subtopic ATM 1.2 - Flight information service (FIS)				
ADI ATM 1.2.1	Describe the information that shall be passed to aircraft by an aerodrome controller.	2	ICAO Doc 4444	ADV ADI
ADI ATM 1.2.2	Provide FIS.	4	ICAO Doc 4444 *Optional content: national documents*	*ALL*
ADI ATM 1.2.3	Issue appropriate information.	3	ICAO Doc 4444, essential local traffic, traffic information	ADV ADI
ADI ATM 1.2.4	Appreciate the use of ATIS for the provision of flight information service by aerodrome controller.	3		ADV ADI

Subtopic ATM 1.3 - Alerting service (ALRS)				
ADI ATM 1.3.1	Provide ALRS.	4	ICAO Doc 4444 *Optional content: national documents*	ALL
ADI ATM 1.3.2	Respond to distress and urgency messages and signals.	3	Regulation (EU) No 923/2012, ICAO Annex 10, ICAO Doc 4444 ICAO Annex 10, ICAO Doc 4444 *Optional content: EUROCONTROL Guidelines for Controller Training in the Handling of Unusual/Emergency Situations*	ALL
Subtopic ATM 1.4 - ATS system capacity and air traffic flow management				
ADI ATM 1.4.1	Appreciate principles of ATS system capacity and air traffic flow management.	3	*Optional content: EUROCONTROL ATFCM Users Manual, Slot management, Slot allocation procedures*	ADV ADI
ADI ATM 1.4.2	Organise traffic to take account of flow management.	4	*Optional content: departure sequence*	ADV ADI
ADI ATM 1.4.3	Inform appropriate authority.	3	*Optional content: abnormal situations, decrease in sector capacity, limitations on systems and equipment, changes in workload/capacity, unusual meteorological conditions, relevant information: reported ground-based incidents, forest fire, smoke, oil pollution*	ADV ADI

TOPIC ATM 2 - COMMUNICATION

Subtopic ATM 2.1 - Effective communication				
ADI ATM 2.1.1	Use approved phraseology.	3	ICAO Doc 4444 *Optional content: ICAO Doc 9432 RTF manual, standard words and phrases as contained in ICAO Annex 10 Vol. 2*	ALL
ADI ATM 2.1.2	Ensure effective communication.	4	Communication techniques, readback/verification of readback	ALL

TOPIC ATM 3 - ATC CLEARANCES AND ATC INSTRUCTIONS

Subtopic ATM 3.1 - ATC clearances				
ADI ATM 3.1.1	Issue appropriate ATC clearances.	3	ICAO Doc 4444 *Optional content: national documents*	ALL
ADI ATM 3.1.2	Integrate appropriate ATC clearances in control service.	4		ALL
ADI ATM 3.1.3	Ensure the agreed course of action is carried out.	4		ALL
Subtopic ATM 3.2 - ATC instructions				
ADI ATM 3.2.1	Issue appropriate ATC instructions.	3	ICAO Doc 4444 *Optional content: national documents*	ALL
ADI ATM 3.2.2	Integrate appropriate ATC instructions in control service.	4		ALL
ADI ATM 3.2.3	Ensure the agreed course of action is carried out.	4		ALL

TOPIC ATM 4 - COORDINATION

Subtopic ATM 4.1 - Necessity for coordination				
ADI ATM 4.1.1	Identify the need for coordination.	3		ALL
Subtopic ATM 4.2 - Tools and methods for coordination				
ADI ATM 4.2.1	Use the available tools for coordination.	3	*Optional content: electronic transfer of flight data, telephone, interphone, intercom, direct speech, radiotelephone (RTF), local agreements, automated system coordination*	ALL
Subtopic ATM 4.3 - Coordination procedures				
ADI ATM 4.3.1	Initiate appropriate coordination.	3	Delegation/transfer of responsibility for air-ground communications and separation, transfer of control, etc. ICAO Doc 4444 *Optional content: release point*	ALL
ADI ATM 4.3.2	Analyse effect of coordination requested by an adjacent position/unit.	4	*Optional content: delegation/transfer of responsibility for air-ground communications and separation, release point, transfer of control, etc.*	ALL
ADI ATM 4.3.3	Select, after negotiation, an appropriate course of action.	5		ALL
ADI ATM 4.3.4	Ensure the agreed course of action is carried out.	4		ALL
ADI ATM 4.3.5	Coordinate in the provision of FIS.	4	ICAO Doc 4444	ALL
ADI ATM 4.3.6	Coordinate in the provision of ALRS.	4	ICAO Doc 4444	ALL

TOPIC ATM 5 - ALTIMETRY AND LEVEL ALLOCATION

Subtopic ATM 5.1 - Altimetry				
ADI ATM 5.1.1	Allocate levels according to altimetry data.	4	ICAO Doc 8168, ICAO Doc 4444	ALL
ADI ATM 5.1.2	Ensure separation according to altimetry data.	4	*Optional content: transition level, transition altitude, transition layer, height, flight level, altitude, vertical distance to airspace boundaries*	ALL
Subtopic ATM 5.2 - Terrain clearance				
ADI ATM 5.2.1	Provide planning, coordination and control actions appropriate to the rules for minimum safe height and terrain clearance.	4	*Optional content: terrain clearance dimensions, minimum safe altitudes, transition level, minimum flight level, minimum sector altitude*	ADI

TOPIC ATM 6 - SEPARATIONS

Subtopic ATM 6.1 - Separation between departing aircraft				
ADI ATM 6.1.1	Provide separation between departing aircraft.	4	ICAO Doc 4444	ADV ADI
Subtopic ATM 6.2 - Separation of departing aircraft from arriving aircraft				
ADI ATM 6.2.1	Provide separation of departing aircraft from arriving aircraft.	4	ICAO Doc 4444	ADI
Subtopic ATM 6.3 - Separation of landing aircraft and preceding landing or departing aircraft				
ADI ATM 6.3.1	Provide separation of landing aircraft and preceding landing or departing aircraft.	4	ICAO Doc 4444	*ADV* ADI
Subtopic ATM 6.4 - Time-based wake turbulence longitudinal separation				
ADI ATM 6.4.1	Provide time-based wake turbulence longitudinal separation.	4	ICAO Doc 4444	ADI *ADV*
Subtopic ATM 6.5 - Reduced separation minima				
ADI ATM 6.5.1	Provide reduced separation minima.	4	ICAO Doc 4444	ADI *ADV*

TOPIC ATM 7 - AIRBORNE COLLISION AVOIDANCE SYSTEMS AND GROUND-BASED SAFETY NETS

Subtopic ATM 7.1 - Airborne collision avoidance systems

ADI ATM 7.1.1	Differentiate between ACAS advisory thresholds and aerodrome separation standards.	2	ICAO Doc 9863	ADV ADI
ADI ATM 7.1.2	Describe the controller responsibility during and following an ACAS RA reported by pilot.	2	ICAO Doc 4444	ALL
ADI ATM 7.1.3	Respond to pilot notification of actions based on airborne systems warnings.	3	ACAS, TAWS *Optional content: EUROCONTROL ACAS web page*	ALL

Subtopic ATM 7.2 - Ground-based safety nets

ADI ATM 7.2.1	Respond to available ground-based safety nets warnings.	3	*Optional content: anti-incursion*	ADV ADI

TOPIC ATM 8 - DATA DISPLAY

Subtopic ATM 8.1 - Data management

ADI ATM 8.1.1	Update the data display to accurately reflect the traffic situation.	3	*Optional content: information displayed, strip marking procedures, electronic information data displays, actions based on traffic display information, calculation of EETs*	ALL
ADI ATM 8.1.2	Analyse pertinent data on data displays.	4		ALL
ADI ATM 8.1.3	Organise pertinent data on data displays.	4		ALL
ADI ATM 8.1.4	Obtain flight plan information.	3	CPL, FPL, supplementary information *Optional content: RPL, AFIL, etc.*	ALL
ADI ATM 8.1.5	Use flight plan information.	3		ALL

TOPIC ATM 9 - OPERATIONAL ENVIRONMENT (SIMULATED)

Subtopic ATM 9.1 - Integrity of the operational environment				
ADI ATM 9.1.1	Obtain information concerning the operational environment.	3	*Optional content: briefing, notices, local orders, verification of information*	ALL
ADI ATM 9.1.2	Ensure the integrity of the operational environment.	4	*Optional content: frequency, VOLMET, ATIS, SIGMET, systems set-up, integrity of displays*	ADV ADI
Subtopic ATM 9.2 - Verification of the currency of operational procedures				
ADI ATM 9.2.1	Check all relevant documentation before managing traffic.	3	*Optional content: briefing, LOAs, NOTAM, AICs*	ALL
Subtopic ATM 9.3 - Handover-takeover				
ADI ATM 9.3.1	Transfer information to the relieving controller.	3		ALL
ADI ATM 9.3.2	Obtain information from the controller handing over.	3		ALL

TOPIC ATM 10 - PROVISION OF AN AERODROME CONTROL SERVICE

Subtopic ATM 10.1 - Responsibility for the provision				
ADI ATM 10.1.1	Explain the responsibility for the provision of an aerodrome control service.	2	ICAO Doc 4444, ICAO Annex 11	ADV ADI
ADI ATM 10.1.2	Describe the division of responsibility between air traffic control units.	2	ICAO Doc 4444	*ALL*
ADI ATM 10.1.3	Describe the responsibility in regard to military traffic.	2	ICAO Doc 4444 *Optional content: ICAO Doc 9554*	*ALL*
ADI ATM 10.1.4	Describe the responsibility in regard to unmanned free balloons.	2	ICAO Doc 4444	ADV ADI
ADI ATM 10.1.5	Appreciate the influence of operational requirements.	3	*Optional content: military flying, calibration flights, aerial photography*	*ALL*

Subtopic ATM 10.2 - Functions of aerodrome control tower				
ADI ATM 10.2.1	Manage the general functions of aerodrome control.	4	ICAO Doc 4444	ADV ADI
ADI ATM 10.2.2	Manage the suspension of VFR operations.	4	ICAO Doc 4444	ADV ADI
Subtopic ATM 10.3 - Traffic management process				
ADI ATM 10.3.1	Ensure that situational awareness is maintained.	4	Information gathering, observation, traffic projection	ADV ADI
ADI ATM 10.3.2	Detect conflicts in time for appropriate resolution.	4		ALL
ADI ATM 10.3.3	Identify potential solutions to achieve a safe and effective flow of aerodrome traffic.	3		ADV ADI
ADI ATM 10.3.4	Evaluate possible outcomes of different control actions.	5		ADV ADI
ADI ATM 10.3.5	Select an appropriate plan in time to achieve safe and effective flow of aerodrome traffic.	5		ADV ADI
ADI ATM 10.3.6	Ensure an adequate priority of actions.	4		*ALL*
ADI ATM 10.3.7	Execute plan in a timely manner.	3		ADV ADI
ADI ATM 10.3.8	Ensure a safe and efficient outcome is achieved.	4	Traffic monitoring, adaptability and follow up	ALL
Subtopic ATM 10.4 - Aeronautical ground lights				
ADI ATM 10.4.1	Select appropriate aeronautical ground lights.	5	ICAO Doc 4444	ADV ADI
Subtopic ATM 10.5 - Information to aircraft by aerodrome control tower				
ADI ATM 10.5.1	Provide information related to the operation of aircraft.	4	ICAO Doc 4444	ADV ADI
ADI ATM 10.5.2	Provide information on aerodrome conditions.	4	ICAO Doc 4444	ADV ADI

Subtopic ATM 10.6 - Control of aerodrome traffic				
ADI ATM 10.6.1	Predict positions of aircraft in the aerodrome traffic and taxi circuits.	4	ICAO Doc 4444	ADV ADI
ADI ATM 10.6.2	Manage traffic on the manoeuvring area.	4	ICAO Doc 4444, aircraft, vehicles *Optional content: runway inspection*	ADV ADI
ADI ATM 10.6.3	Manage traffic in accordance with procedural changes.	4	*Optional content: taxiway closure*	ADV ADI
ADI ATM 10.6.4	Balance the workload against personal capacity.	5	*Optional content: re-planning, prioritising solutions, denying requests, delaying traffic*	ADV ADI
Subtopic ATM 10.7 - Control of traffic in the traffic circuit				
ADI ATM 10.7.1	Manage traffic in the traffic circuit.	4	ICAO Doc 4444, meteorological phenomena, geographical knowledge, environmental factors	ADV ADI
ADI ATM 10.7.2	Manage arriving and departing traffic.	4	ICAO Doc 4444, allocation of the order of priority, meteorological phenomena, wake turbulence, environmental factors	ADV ADI
ADI ATM 10.7.3	Integrate the serviceability of radio aids in the management of aerodrome traffic.	4	*Optional content: UDF, VDF, MLS, ILS, NDB, VOR, DME*	ADV ADI
ADI ATM 10.7.4	Integrate surface conditions into the control of aerodrome traffic.	4	*Optional content: damp, wet, water patches, flooding, snow, slush, ice, braking action*	ADV ADI
ADI ATM 10.7.5	Integrate information about meteorological phenomena into the control of aerodrome traffic.	4	*Optional content: clouds, precipitation, visibility, wind, meteorological hazards*	ADV ADI
ADI ATM 10.7.6	Integrate the information provided by situation displays.	4	Use, advantages, disadvantages	ADV ADI
ADI ATM 10.7.7	Initiate missed approach.	3	*Optional content: obstructed runway*	ADV ADI
Subtopic ATM 10.8 - Runway in use				
ADI ATM 10.8.1	Select the runway in use.	5	ICAO Doc 4444	ADV ADI
ADI ATM 10.8.2	Coordinate runway in use.	4	*Optional content: approach control, area control, runway selection, change of runway*	ADV ADI
ADI ATM 10.8.3	Manage traffic in the event of runway-in-use change.	4		ADV ADI

TOPIC ATM 11 - PROVISION OF AERODROME CONTROL - INSTRUMENT

Subtopic ATM 11.1 - Low visibility operations and special VFR				
ADI ATM 11.1.1	Manage SVFR traffic.	4	ICAO Doc 4444	ADI
ADI ATM 11.1.2	Describe the Procedures for Low Visibility Operations.	2	ICAO Doc 4444	ADI
Subtopic ATM 11.2 - Departing traffic				
ADI ATM 11.2.1	Manage control of departing aircraft.	4	ICAO Doc 4444, use of situation displays, wake turbulence, appropriate departure clearances, SIDs	ADI
ADI ATM 11.2.2	Integrate departure sequence into the control of aerodrome traffic.	4	ICAO Doc 4444	ADI
ADI ATM 11.2.3	Provide appropriate information to departing traffic.	4	ICAO Doc 4444, use of situation displays, wake turbulence	ADI
Subtopic ATM 11.3 - Arriving traffic				
ADI ATM 11.3.1	Manage control of arriving aircraft.	4	ICAO Doc 4444, wake turbulence	ADI
ADI ATM 11.3.2	Integrate the approach sequence into the control of aerodrome traffic.	4	ICAO Doc 4444	ADI
ADI ATM 11.3.3	Integrate aircraft on visual approach into the aerodrome traffic.	4	ICAO Doc 4444	ADI
ADI ATM 11.3.4	Integrate aircraft on missed approach into the aerodrome traffic.	4	ICAO Doc 4444, use of air traffic monitors	ADI
ADI ATM 11.3.5	Integrate aircraft performing circling approach into the aerodrome traffic.	4	ICAO Doc 8168	ADI
ADI ATM 11.3.6	Provide appropriate information to arriving aircraft.	4	ICAO Doc 4444	ADI
Subtopic ATM 11.4 - Aerodrome control service with advanced system support				
ADI ATM 11.4.1	Appreciate the impact of advanced systems on the provision of aerodrome control service.	3	*Optional content: surface manager (SMAN), departure manager (DMAN), automated conflicts/incursions tools, alarms and resolution advisory tools, automated assistance for surface movement planning and routing, enhanced vision technology in low visibility for controllers*	ADI

SUBJECT 4: METEOROLOGY

The subject objective is:

Learners shall acquire, decode and make proper use of meteorological information relevant to the provision of ATS.

TOPIC MET 1 - METEOROLOGICAL PHENOMENA

Subtopic MET 1.1 - Meteorological phenomena

ADI MET 1.1.1	Appreciate the impact of different cloud types.	3	Cumulus, cumulonimbus *Optional content: stratus, nimbostratus, etc.*	ADV ADI
ADI MET 1.1.2	Appreciate the impact of precipitation.	3	Precipitation and microphysics *Optional content: rain, snow, sleet, hail*	ADV ADI
ADI MET 1.1.3	Appreciate the impact of atmospheric obscurity.	3	 *Optional content: advection fog, radiation fog, mixing, evaporation, mist, drizzle*	ADV ADI
ADI MET 1.1.4	Appreciate the effect and impact of wind.	3	Gusting, veering, backing *Optional content: land breezes, sea breezes, Föhn*	ADV ADI
ADI MET 1.1.5	Appreciate the effect and danger of hazardous meteorological phenomena.	3	Wind shear, turbulence, thunderstorms, icing, microbursts	ADV ADI
ADI MET 1.1.6	Appreciate the effect of a frontal system on aerodrome operations.	3		ADV ADI
ADI MET 1.1.7	Integrate data about meteorological phenomena into provision of ATS.	4	Clearances, instructions and transmitted information *Optional content: relevant meteorological phenomena*	*ALL*

TOPIC MET 2 - SOURCES OF METEOROLOGICAL DATA

Subtopic MET 2.1 - Meteorological instruments				
ADI MET 2.1.1	Extract information from meteorological instruments.	3	*Optional content: anemometer, RVR indicator, cloud base indicator, ceilometer, barometer*	ADV ADI
Subtopic MET 2.2 - Other sources of meteorological data				
ADI MET 2.2.1	Decode information from meteorological data displays.	3		ADV ADI
ADI MET 2.2.2	Use appropriate communication tools and networks to obtain meteorological data.	3		ADV ADI
ADI MET 2.2.3	Relay meteorological information.	3	ICAO Doc 4444 *Optional content: flight information centre, adjacent ATS unit*	*ALL*

SUBJECT 5: NAVIGATION

The subject objective is:

Learners shall analyse all navigational aspects in order to organise the traffic.

TOPIC NAV 1 - MAPS AND AERONAUTICAL CHARTS

Subtopic NAV 1.1 - Maps and charts

ADI NAV 1.1.1	Decode symbols and information displayed on aeronautical maps and charts.	3	Instrument approach charts, SID charts, aerodrome charts, visual approach charts *Optional content: military maps and charts*	ADI APP APS
ADI NAV 1.1.2	Use relevant maps and charts.	3	Instrument approach charts, SID charts, aerodrome charts, visual approach charts *Optional content: military maps and charts*	ADI

TOPIC NAV 2 - INSTRUMENT NAVIGATION

Subtopic NAV 2.1 - Navigational systems

ADI NAV 2.1.1	Describe the possible operational status of navigational systems.	2	*Optional content: NDB, VOR, DME, ILS, MLS, ABAS, SBAS, GBAS, RNP*	ADI
ADI NAV 2.1.2	Decode operational status displays of navigational systems.	3	*Optional content: NDB, VOR, DME, ILS, MLS, D-GPS, RNAV, P-RNAV*	ADI
ADI NAV 2.1.3	Appreciate the effect of precision, limitations and change of the operational status of navigational systems.	3	*Optional content: limitations, status, degraded procedures*	*ALL*
ADI NAV 2.1.4	Manage traffic in case of change in the operational status of navigational systems.	4	*Optional content: limitations, status of ground-based systems*	ADI

Subtopic NAV 2.2 - Stabilised approach				
ADI NAV 2.2.1	Describe the concept of stabilised approach.	2	ICAO Doc 8168 *Optional content: SKYbrary, Regulation (EC) No 1899/2006*	ADV ADI APP APS
ADI NAV 2.2.2	Appreciate the effect of late change of runway-in-use for landing aircraft.	3		ADV ADI
Subtopic NAV 2.3 - Instrument departures and arrivals				
ADI NAV 2.3.1	Characterise SIDs.	2		ADI APP APS
ADI NAV 2.3.2	Describe the phases of an instrument approach procedure.	2		ADI
ADI NAV 2.3.3	Describe the relevant minima applicable for a precision/ non-precision and visual approach.	2		ADI APP APS
Subtopic NAV 2.4 - Satellite-based systems				
ADI NAV 2.4.1	State the different applications of satellite-based systems relevant for aerodrome operations.	1	*Optional content: NPA, APV-baro VNAV, APV, LPV, precision approach, ICAO Doc 8168 Vol.2*	ADI
Subtopic NAV 2.5 - PBN applications				
ADI NAV 2.5.1	State future PBN developments.	1	A-RNP, APV *Optional content: RNP 3D, RNP 4D*	ADI *APP* *ACP* *APS* *ACS*

SUBJECT 6: AIRCRAFT

The subject objective is:

Learners shall assess and integrate aircraft performance in the provision of ATS.

TOPIC ACFT 1 - AIRCRAFT INSTRUMENTS

Subtopic ACFT 1.1 - Aircraft instruments

ADI ACFT 1.1.1	Integrate information from aircraft instruments provided by the pilot in the provision of ATS.	4		ALL
ADI ACFT 1.1.2	Explain the operation of aircraft radio equipment.	2	*Optional content: radios (number of), emergency radios*	ALL
ADI ACFT 1.1.3	Explain the operation of on-board surveillance equipment.	2	Transponders: equipment Mode A, Mode C, Mode S, ADS capability	ADI APS ACS

TOPIC ACFT 2 - AIRCRAFT CATEGORIES

Subtopic ACFT 2.1 - Wake turbulence

ADI ACFT 2.1.1	Explain the wake turbulence effect and associated hazards to the succeeding aircraft.	2		ALL
ADI ACFT 2.1.2	Appreciate the techniques used to prevent hazards associated with wake turbulence on succeeding aircraft.	3		ALL

Subtopic ACFT 2.2 - Application of ICAO approach categories

ADI ACFT 2.2.1	Describe the use of ICAO approach categories.	2	ICAO Doc 8168	ADI APP APS
ADI ACFT 2.2.2	Appreciate the effect of ICAO approach categories on the traffic organisation.	3		ADI APP APS

TOPIC ACFT 3 - FACTORS AFFECTING AIRCRAFT PERFORMANCE

Subtopic ACFT 3.1 - Take-off factors				
ADI ACFT 3.1.1	Integrate the influence of factors affecting aircraft on take-off.	4	*Optional content: runway conditions, runway slope, aerodrome elevation, wind, temperature, aircraft configuration, airframe contamination and aircraft mass*	ADV ADI
Subtopic ACFT 3.2 - Climb factors				
ADI ACFT 3.2.1	Appreciate the influence of factors affecting aircraft during climb.	3	*Optional content: speed, mass, air density, wind and temperature*	ADV ADI
Subtopic ACFT 3.3 - Final approach and landing factors				
ADI ACFT 3.3.1	Integrate the influence of factors affecting aircraft during final approach and landing.	4	*Optional content: wind, aircraft configuration, mass, runway conditions, runway slope, aerodrome elevation*	ADV ADI
Subtopic ACFT 3.4 - Economic factors				
ADI ACFT 3.4.1	Integrate consideration of economic factors affecting aircraft.	4	*Optional content: starting-up, taxiing, routing, departure sequence*	ADV ADI
Subtopic ACFT 3.5 - Environmental factors				
ADI ACFT 3.5.1	Appreciate the performance restrictions due to environmental constraints.	3	*Optional content: noise abatement procedures, minimum flight altitudes, bird hazard*	ADV ADI

TOPIC ACFT 4 - AIRCRAFT DATA

Subtopic ACFT 4.1 - Recognition of aircraft types				
ADI ACFT 4.1.1	Characterise a representative sample of aircraft which will be encountered in the operational/working environment.	2	Recognition, ICAO type designators, wake turbulence categories *Optional content: ICAO approach categories*	ADI
Subtopic ACFT 4.2 - Performance data				
ADI ACFT 4.2.1	Integrate the average performance data of a representative sample of aircraft which will be encountered in the operational/working environment into the provision of a control service.	4	Performance data under a representative variety of circumstances	ADV ADI

SUBJECT 7: HUMAN FACTORS

The subject objective is:

Learners shall recognise the necessity to constantly extend their knowledge and analyse factors which affect personal and team performance.

TOPIC HUM 1 - PSYCHOLOGICAL FACTORS

Subtopic HUM 1.1 - Cognitive				
ADI HUM 1.1.1	Describe the human information processing model.	2	Attention, perception, memory, situational awareness, decision making, response	ALL
ADI HUM 1.1.2	Describe the factors which influence human information processing.	2	Confidence, stress, learning, knowledge, experience, fatigue, alcohol/drugs, distraction, interpersonal relations	ALL
ADI HUM 1.1.3	Monitor the effect of human information processing factors on decision making.	3	*Optional content: workload, stress, interpersonal relations, distraction, confidence*	ALL

TOPIC HUM 2 - MEDICAL AND PHYSIOLOGICAL FACTORS

Subtopic HUM 2.1 - Fatigue				
ADI HUM 2.1.1	State factors that cause fatigue.	1	Shift work *Optional content: night shifts and rosters*	ALL
ADI HUM 2.1.2	Describe the onset of fatigue.	2	*Optional content: lack of concentration, listlessness, irritability, frustration, ICAO Circular 241 – AN/145 Human factors in Air Traffic Control*	ALL
ADI HUM 2.1.3	Recognise the onset of fatigue in self.	1	*Optional content: ICAO Circular 241 – AN/145 Human factors in Air Traffic Control*	ALL
ADI HUM 2.1.4	Recognise the onset of fatigue in others.	1		ALL
ADI HUM 2.1.5	Describe appropriate action when recognising fatigue.	2		ALL

Subtopic HUM 2.2 - Fitness				
ADI HUM 2.2.1	Recognise signs of lack of personal fitness.	1		ALL
ADI HUM 2.2.2	Describe actions when aware of a lack of personal fitness.	2		ALL

TOPIC HUM 3 - SOCIAL AND ORGANISATIONAL FACTORS

Subtopic HUM 3.1 - Team resource management (TRM)				
ADI HUM 3.1.1	State the relevance of TRM.	1	*Optional content: TRM course, EUROCONTROL Guidelines for the development of TRM training*	ALL
ADI HUM 3.1.2	State the content of the TRM concept.	1	*Optional content: team work, human error, team roles, stress, decision making, communication, situational awareness*	ALL
Subtopic HUM 3.2 - Teamwork and team roles				
ADI HUM 3.2.1	Identify reasons for conflict.	3		ALL
ADI HUM 3.2.2	Describe actions to prevent human conflicts.	2	*Optional content: TRM team roles*	ALL
ADI HUM 3.2.3	Describe strategies to cope with human conflicts.	2	*Optional content: in your team, in the simulator*	ALL
Subtopic HUM 3.3 - Responsible behaviour				
ADI HUM 3.3.1	Consider the factors which influence responsible behaviour.	2	*Optional content: situation, team, personal situation and judgement, instance of justification, moral motivation, personality*	ALL
ADI HUM 3.3.2	Apply responsible judgement.	3	Case study and discussion about a dilemma situation	ALL

TOPIC HUM 4 - STRESS

Subtopic HUM 4.1 - Stress				
ADI HUM 4.1.1	Recognise the effects of stress on performance.	1	Stress and its symptoms in self and in others	ALL

Subtopic HUM 4.2 - Stress management				
ADI HUM 4.2.1	Act to reduce stress.	3	The effect of personality in coping with stress, the benefits of active stress management	ALL
ADI HUM 4.2.2	Respond to stressful situation by offering, asking or accepting assistance.	3	*Optional content: the benefits of offering, accepting and asking for help in stressful situations*	ALL
ADI HUM 4.2.3	Recognise the effect of shocking and stressful events.	1	Self and others, abnormal situations, CISM	ALL
ADI HUM 4.2.4	Consider the benefits of Critical Incident Stress Management (CISM).	2		ALL
ADI HUM 4.2.5	Explain procedures used following an incident/accident.	2	*Optional content: CISM, counselling, human element*	ALL

TOPIC HUM 5 - HUMAN ERROR

Subtopic HUM 5.1 - Human error				
ADI HUM 5.1.1	Explain the relationship between error and safety.	2	Number and combination of errors, proactive versus reactive approach to discovery of error *Optional content: ICAO Circular 314 – AN/178 Threat and Error Management (TEM) in Air Traffic Control*	ALL
ADI HUM 5.1.2	Differentiate between the types of error.	2	Slips, lapses, mistakes *Optional content: Circular 314 – AN/178 Threat and Error Management (TEM) in Air Traffic Control*	ALL
ADI HUM 5.1.3	Describe error-prone conditions.	2	*Optional content: increase in traffic, changes in procedures, complexities of systems or traffic, weather, unusual occurrences*	ALL
ADI HUM 5.1.4	Collect examples of different error types, their causes and consequences in ATC.	3	*Optional content: ICAO Circular 314 – AN/178 Threat and Error Management (TEM) in Air Traffic Control*	ALL

Subtopic HUM 5.1 - Human error				
ADI HUM 5.1.5	Explain how to detect errors to compensate for them.	2	STCA, MSAW, individual and collective strategy *Optional content: ICAO Circular 314 – AN/178 Threat and Error Management (TEM) in Air Traffic Control*	ALL
ADI HUM 5.1.6	Execute corrective actions.	3	Error compensation *Optional content: ICAO Circular 314 – AN/178 Threat and Error Management (TEM) in Air Traffic Control*	ALL
ADI HUM 5.1.7	Explain the importance of error management.	2	*Optional content: prevention of incidents, safety improvement, revision of procedures and/or working practises*	ALL
ADI HUM 5.1.8	Describe the impact on an ATCO following an occurrence/incident.	2	*Optional content: reporting, SMS, investigation, CISM*	ALL
Subtopic HUM 5.2 - Violation of rules				
ADI HUM 5.2.1	Explain the causes and dangers of violation of rules becoming accepted as a practice.	2	*Optional content: ICAO Circular 314 – AN/178 Threat and Error Management (TEM) in Air Traffic Control*	ALL

TOPIC HUM 6 - COLLABORATIVE WORK

Subtopic HUM 6.1 - Communication				
ADI HUM 6.1.1	Use communication effectively in ATC.	3		ALL
ADI HUM 6.1.2	Analyse examples of pilot and controller communication for effectiveness.	4		ALL
Subtopic HUM 6.2 - Collaborative work within the same area of responsibility				
ADI HUM 6.2.1	List communication means between controllers in charge of the same area of responsibility (sector or tower).	1	*Optional content: electronic, written, verbal and non-verbal communication*	ALL
ADI HUM 6.2.2	Explain consequences of the use of communication means on effectiveness.	2	*Optional content: strips legibility and encoding, labels designation, feedback*	ALL
ADI HUM 6.2.3	List possible actions to provide a safe position handover.	1	*Optional content: rigour, preparation, overlap time*	ALL
ADI HUM 6.2.4	Explain consequences of a missed position handover process.	2		ALL

Subtopic HUM 6.3 - Collaborative work between different areas of responsibility				
ADI HUM 6.3.1	List factors and means for an effective coordination between sectors and/or tower positions.	1	*Optional content: other sectors constraints, electronic coordination tools*	ALL
Subtopic HUM 6.4 - Controller/pilot cooperation				
ADI HUM 6.4.1	Describe parameters affecting controller/pilot cooperation.	2	*Optional content: workload, mutual knowledge, controller vs pilot mental picture*	ALL

SUBJECT 8: EQUIPMENT AND SYSTEMS

The subject objective is:

Learners shall integrate knowledge and understanding of the basic working principles of equipment and systems and comply with the equipment and system degradation procedures in the provision of ATS.

TOPIC EQPS 1 - VOICE COMMUNICATIONS

Subtopic EQPS 1.1 - Radio communications

ADI EQPS 1.1.1	Operate two-way communication equipment.	3	Transmit/receive switches, procedures *Optional content: frequency selection, standby equipment*	ALL
ADI EQPS 1.1.2	Identify indications of operational status of radio equipment.	3	*Optional content: indicator lights, serviceability displays, selector/frequency displays*	ALL

Subtopic EQPS 1.2 - Other voice communications

ADI EQPS 1.2.1	Operate landline communications.	3	*Optional content: telephone, interphone and intercom equipment*	ALL

TOPIC EQPS 2 - AUTOMATION IN ATS

Subtopic EQPS 2.1 - Aeronautical fixed telecommunication network (AFTN)

ADI EQPS 2.1.1	Decode AFTN messages.	3	*Optional content: movement and control messages, NOTAM, SNOWTAM, BIRDTAM, etc.*	ALL

Subtopic EQPS 2.2 - Automatic data interchange

ADI EQPS 2.2.1	Use automatic data transfer equipment where available.	3	*Optional content: sequencing systems, automated information and coordination, OLDI*	ADV ADI APS ACS
ADI EQPS 2.2.2	Explain operational application of CPDLC for departure clearance (DCL) delivery and D-ATIS.	2	ICAO Doc 9694	ADV ADI

TOPIC EQPS 3 - CONTROLLER WORKING POSITION

Subtopic EQPS 3.1 - Operation and monitoring of equipment				
ADI EQPS 3.1.1	Monitor the technical integrity of the controller working position.	3	Notification procedures, responsibilities	ALL
ADI EQPS 3.1.2	Operate the equipment of the controller working position.	3	*Optional content: situation displays, flight progress board, flight data display, radio, telephone, maps and charts, strip-printer, clock, information systems, UDF/VDF*	ALL
ADI EQPS 3.1.3	Operate available equipment in abnormal and emergency situations.	3		ALL
Subtopic EQPS 3.2 - Situation displays and information systems				
ADI EQPS 3.2.1	Use situation displays.	3		ALL
ADI EQPS 3.2.2	Check availability of information material.	3		ALL
ADI EQPS 3.2.3	Obtain information from equipment.	3	*Optional content: information from wind direction indicator*	ADV ADI
ADI EQPS 3.2.4	Take account of anti-incursion equipment.	2		ADI
ADI EQPS 3.2.5	Explain the use of ASMGCS.	2		ADI
Subtopic EQPS 3.3 - Flight data systems				
ADI EQPS 3.3.1	Use the flight data information at controller working position.	3		ALL

TOPIC EQPS 4 - FUTURE EQUIPMENT

Subtopic EQPS 4.1 - New developments				
ADI EQPS 4.1.1	Recognise future developments.	1	New advanced systems	ALL

TOPIC EQPS 5 - EQUIPMENT AND SYSTEMS LIMITATIONS AND DEGRADATION

Subtopic EQPS 5.1 - Reaction to limitations				
ADI EQPS 5.1.1	Take account of the limitations of equipment and systems.	2		ALL
ADI EQPS 5.1.2	Respond to technical deficiencies of the operational position.	3	Notification procedures, responsibilities	ALL
Subtopic EQPS 5.2 - Communication equipment degradation				
ADI EQPS 5.2.1	Identify that communication equipment has degraded.	3	*Optional content: ground-air, ground-ground and landline communications*	ADV ADI
ADI EQPS 5.2.2	Integrate contingency procedures in the event of communication equipment degradation.	4	*Optional content: total or partial degradation of ground-air, ground-ground and landline communications; alternative methods of transferring data*	ADV ADI
Subtopic EQPS 5.3 - Navigational equipment degradation				
ADI EQPS 5.3.1	Identify when a navigational equipment failure will affect operational ability.	3	*Optional content: VOR, navigational aids*	ALL
ADI EQPS 5.3.2	Apply contingency procedures in the event of a navigational equipment degradation.	3	*Optional content: vertical separation, information to aircraft, navigational assistance, seeking assistance from adjacent units*	ADI APP ACP APS ACS

SUBJECT 9: PROFESSIONAL ENVIRONMENT

The subject objective is:

Learners shall identify the need for close cooperation with other parties concerning ATM operations and appreciate aspects of environmental protection.

TOPIC PEN 1 - FAMILIARISATION

Subtopic PEN 1.1 - Study visit to aerodrome				
ADI PEN 1.1.1	Appreciate the functions and provision of an operational aerodrome control service.	3	Study visit to TWR	ADV ADI

TOPIC PEN 2 - AIRSPACE USERS

Subtopic PEN 2.1 - Contributors to civil ATS operations				
ADI PEN 2.1.1	Characterise civil ATS activities at aerodrome.	2	Study visit to TWR *Optional content: familiarisation visits to APP, ACC, AIS, RCC*	ADV ADI
ADI PEN 2.1.2	Characterise other parties interfacing with ATS operations.	2	*Optional content: familiarisation visits to engineering services, fire and emergency services, airline operations offices*	ALL
Subtopic PEN 2.2 - Contributors to military ATS operations				
ADI PEN 2.2.1	Characterise military ATS activities.	2	*Optional content: familiarisation visits to TWR, APP, ACC, AIS, RCC, Air Defence Units*	ALL

TOPIC PEN 3 - CUSTOMER RELATIONS

Subtopic PEN 3.1 - Provision of services and user requirements				
ADI PEN 3.1.1	Identify the role of ATC as a service provider.	3		ALL
ADI PEN 3.1.2	Appreciate ATS users requirements.	3		ALL

TOPIC PEN 4 - ENVIRONMENTAL PROTECTION

Subtopic PEN 4.1 - Environmental protection				
ADI PEN 4.1.1	Describe the environmental constraints on aerodrome operations.	2	*Optional content: ICAO Circular 303 - Operational opportunities to minimise fuel use and reduce emissions*	ADV ADI APP APS
ADI PEN 4.1.2	Explain the use of Collaborative Environmental Management (CEM) process at airports.	2		ADV ADI APP APS
ADI PEN 4.1.3	Appreciate the mitigation techniques used at aerodromes to minimise aviation's impact on the environment.	3	*Optional content: noise abatement procedures, flight efficiency*	ADV ADI

SUBJECT 10: ABNORMAL AND EMERGENCY SITUATIONS

The subject objective is:

Learners shall develop professional attitudes to manage traffic in abnormal and emergency situations.

TOPIC ABES 1 - ABNORMAL AND EMERGENCY SITUATIONS (ABES)

Subtopic ABES 1.1 - Overview of ABES				
ADI ABES 1.1.1	List common abnormal and emergency situations.	1	*Optional content: EATM Guidelines for Controller Training in the Handling of Unusual/Emergency Situations, ambulance flights, ground based safety nets alerts, airframe failure, unreliable instruments, runway incursion*	ALL
ADI ABES 1.1.2	Identify potential or actual abnormal and emergency situations.	3		ALL
ADI ABES 1.1.3	Take into account the procedures for given abnormal and emergency situations.	2	Bird strike, aborted take-off *Optional content: ICAO Doc 4444*	ADV ADI
ADI ABES 1.1.4	Take into account that procedures do not exist for all abnormal and emergency situations.	2	*Optional content: real life examples*	ALL
ADI ABES 1.1.5	Consider how the evolution of a situation may have an impact on safety.	2	*Optional content: separation, information, coordination*	ALL

TOPIC ABES 2 - SKILLS IMPROVEMENT

Subtopic ABES 2.1 - Communication effectiveness				
ADI ABES 2.1.1	Ensure effective communication in all circumstances including the case where standard phraseology is not applicable.	4	Phraseology, vocabulary, readback, silence instruction	ALL
ADI ABES 2.1.2	Apply change of radiotelephony call sign.	3	ICAO Doc 4444	ALL

Subtopic ABES 2.2 - Avoidance of mental overload				
ADI ABES 2.2.1	Describe actions to keep control of the situation.	2	*Optional content: sector splitting, holding, flow management, task delegation*	ALL
ADI ABES 2.2.2	Organise priority of actions.	4		ALL
ADI ABES 2.2.3	Ensure effective circulation of information.	4	*Optional content: between executive and planner/coordinator, with the supervisor, between sectors, between ACC, APP and TWR , with ground staff, etc.*	ALL
ADI ABES 2.2.4	Consider asking for help.	2		ALL
Subtopic ABES 2.3 - Air / ground cooperation				
ADI ABES 2.3.1	Collect appropriate information relevant to the situation.	3		ALL
ADI ABES 2.3.2	Assist the pilot.	3	Pilot workload *Optional content: instructions, information, support, human factors, etc.*	ALL

TOPIC ABES 3 - PROCEDURES FOR ABNORMAL AND EMERGENCY SITUATIONS

Subtopic ABES 3.1 - Application of procedures for ABES

ADI ABES 3.1.1	Apply the procedures for given abnormal and emergency situations.	3	*Optional content: EATM Guidelines for Controller Training in the Handling of Unusual/Emergency Situations, ambulance flights, ground based safety nets alerts, airframe failure*	ALL

Subtopic ABES 3.2 - Radio failure

ADI ABES 3.2.1	Describe the procedures followed by a pilot when he/she experiences complete or partial radio failure.	2	ICAO Doc 7030 *Optional content: military procedures*	ALL
ADI ABES 3.2.2	Apply the procedures to be followed when a pilot experiences complete or partial radio failure.	3	*Optional content: prolonged loss of communication*	ALL

Subtopic ABES 3.3 - Unlawful interference and aircraft bomb threat

ADI ABES 3.3.1	Apply ATC procedures associated with unlawful interference and aircraft bomb threat.	3	ICAO Doc 4444	ALL

Subtopic ABES 3.4 - Strayed or unidentified aircraft

ADI ABES 3.4.1	Apply the procedures in the case of strayed aircraft.	3	ICAO Doc 4444 *Optional content: inside controlled airspace, outside controlled airspace*	ALL
ADI ABES 3.4.2	Apply the procedures in the case of unidentified aircraft.	3	ICAO Doc 4444	ALL
ADI ABES 3.4.3	Provide navigational assistance to aircraft.	4	*Optional content: diverted aircraft, aircraft lost or unsure of position, information derived locally or from radar service or from other pilots, nearest most suitable aerodrome, track, heading, distance, aerodrome information, any other relevant navigational assistance, ICAO Doc 4444, etc.*	ADV ADI

Subtopic ABES 3.5 - Runway incursion

ADI ABES 3.5.1	Apply ATC procedures associated with runway incursion.	3	ICAO Doc 4444	ADV ADI

SUBJECT 11: AERODROMES

The subject objective is:

Learners shall recognise and understand the design and layout of aerodromes.

TOPIC AGA 1 - AERODROME DATA, LAYOUT AND COORDINATION

Subtopic AGA 1.1 - Definitions

ADI AGA 1.1.1	Define aerodrome data.	1	Regulation (EU) No 139/2014 - EASA ED Decision 2014/013/R for CS-ADR-DSN - Initial issue and EASA ED Decision 2014/012/R for ADR AMC/GM ICAO Annex 14 *Optional content: aerodrome elevation, reference point, apron, movement area, manoeuvring area, hot spot*	ADV ADI APP APS

Subtopic AGA 1.2 - Coordination

ADI AGA 1.2.1	Identify the information that has to be passed between Air Traffic Services (ATS) and the airport authority.	3	Airport conditions, fire/rescue category, condition of ground equipment and NAVAIDs, AIRAC, Regulation (EU) No 139/2014 - EASA ED Decision 2014/013/R for CS-ADR-DSN - Initial issue and EASA ED Decision 2014/012/R for ADR AMC/GM Airport conditions, Fire/rescue category, Condition of ground equipment and NAVAIDs, AIRAC, ICAO Annex 14	APP APS ADV ADI

TOPIC AGA 2 - MOVEMENT AREA

Subtopic AGA 2.1 - Movement area

ADI AGA 2.1.1	Describe movement area.	2	Regulation (EU) No 139/2014 - EASA ED Decision 2014/013/R for CS-ADR-DSN - Initial issue and EASA ED Decision 2014/012/R for ADR AMC/GM ICAO Annex 14	ADV ADI APP APS
ADI AGA 2.1.2	Describe the marking of obstacles and unusable or unserviceable areas.	2	Flags, signs on pavement, lights	ADV ADI APP APS
ADI AGA 2.1.3	Identify the information on conditions of the movement area that have to be passed to aircraft.	3	Essential information on aerodrome conditions	ADV ADI APP APS

Subtopic AGA 2.2 - Manoeuvring area				
ADI AGA 2.2.1	Describe manoeuvring area.	2	Regulation (EU) No 139/2014 - EASA ED Decision 2014/013/R for CS-ADR-DSN - Initial issue and EASA ED Decision 2014/012/R for ADR AMC/GM ICAO Annex 14	ADV ADI APP APS
ADI AGA 2.2.2	Describe taxiway.	2		ADV ADI APP APS
ADI AGA 2.2.3	Describe the daylight marking on taxiways.	2		ADV ADI APP APS
ADI AGA 2.2.4	Describe taxiway lighting.	2		ADV ADI APP APS
Subtopic AGA 2.3 - Runways				
ADI AGA 2.3.1	Describe runway.	2	Runway, runway surface, runway strip, shoulder, runway end safety areas, clearways, stopways	ADV ADI APP APS
ADI AGA 2.3.2	Describe instrument runway.	2	Regulation (EU) No 139/2014 - EASA ED Decision 2014/013/R for CS-ADR-DSN - Initial issue and EASA ED Decision 2014/012/R for ADR AMC/GM ICAO Annex 14	ADI APP APS
ADI AGA 2.3.3	Describe non-instrument runway.	2	Regulation (EU) No 139/2014 - EASA ED Decision 2014/013/R for CS-ADR-DSN - Initial issue and EASA ED Decision 2014/012/R for ADR AMC/GM ICAO Annex 14	*ADV* ADI APP APS
ADI AGA 2.3.4	Explain declared distances.	2	TORA, TODA, ASDA, LDA	*ADV* ADI APP APS
ADI AGA 2.3.5	Explain the differences between ACN and PCN.	2	Strength of pavements	*ADV* ADI APP APS
ADI AGA 2.3.6	Describe the daylight markings on runways.	2	*Optional content: runway designator, centre line, threshold, aiming point, fixed distance, touchdown zone, side strip, colour*	*ADV* ADI APP APS

Subtopic AGA 2.3 - Runways				
ADI AGA 2.3.7	Describe runway lights.	2	*Optional content: colour, centre line, intensity, edge, touchdown zone, threshold, barettes*	*ADV* ADI APP APS
ADI AGA 2.3.8	Explain the functions of visual landing aids.	2	*Optional content: AVASI, VASI, PAPI*	*ADV* ADI APP APS
ADI AGA 2.3.9	Describe the approach lighting systems.	2	Centre line, cross bars, stroboscopic lights, colours, intensity and brightness	*ADV* ADI APP APS
ADI AGA 2.3.10	Characterise the effect of water/ice on runways.	2		*ADV* ADI APP APS
ADI AGA 2.3.11	Explain braking action.	2	Braking action coefficient	*ADV* ADI APP APS
ADI AGA 2.3.12	Explain the effect of runway visual range on aerodrome operation.	2		*ADV* ADI APP APS

TOPIC AGA 3 - OBSTACLES

Subtopic AGA 3.1 - Obstacle-free airspace around aerodromes				
ADI AGA 3.1.1	Explain the necessity for establishing and maintaining an obstacle-free airspace around aerodromes.	2		ADV ADI APP APS

TOPIC AGA 4 - MISCELLANEOUS EQUIPMENT

Subtopic AGA 4.1 - Location				
ADI AGA 4.1.1	Explain the location of different aerodrome ground equipment.	2	*Optional content: LLZ, GP, VDF, radio communication or ATS surveillance systems sensors, stopbars, AVASI, VASI, PAPI*	ADV ADI APP APS

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