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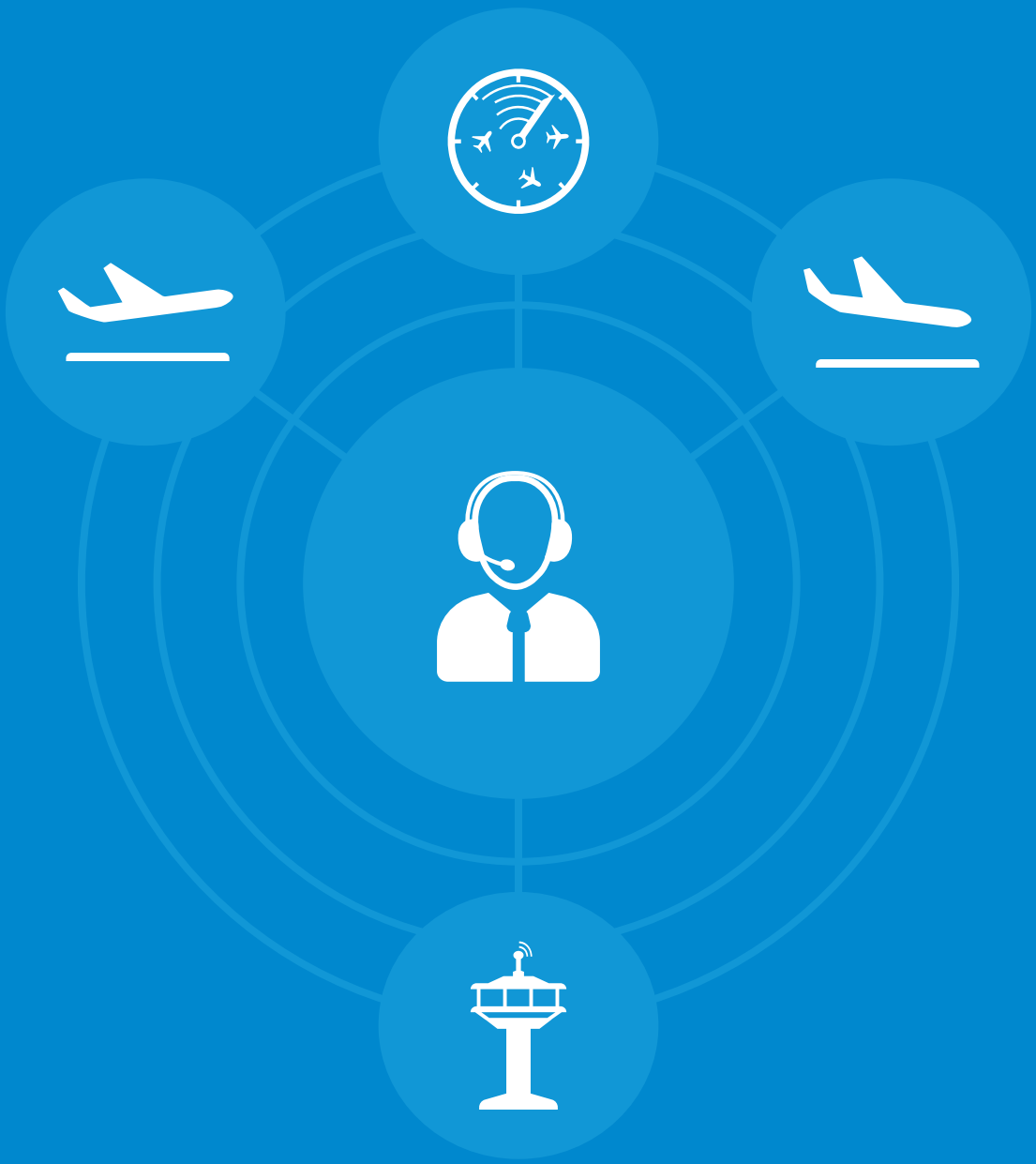

ATCO

AIR TRAFFIC CONTROLLERS' LICENSING AND CERTIFICATION

Consolidated version of
Air Traffic Controllers' Licenses and Certificates Implementing Rules and related Acceptable Means of Compliance and Guidance Material, including the
ATCO Initial Training Content and its related AMC and GM

Issued August 2015

ATCO

Technical requirements and administrative procedures related to Commission Regulation (EU) 2015/340

and

AMC and GM to ATCO

ED Decision 2015/010/R
ED Decision 2015/015/R

COMMISSION REGULATION (EU) 2015/340 of 20 February 2015 laying down technical requirements and administrative procedures relating to air traffic controllers' licences and certificates pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council, amending Commission Implementing Regulation (EU) No 923/2012 and repealing Commission Regulation (EU) No 805/2011
(Text with EEA relevance)

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NOTE FROM THE EDITOR

This PDF contains Commission Regulation (EU) No 2015/340 together with the related Acceptable Means of Compliance and Guidance Materials (AMC/GM) taken from ED Decisions ED 2015/010/R and 2015/015/R. This means that the rules paragraphs from the implementing regulation (IR) are followed by their respective AMC and GM paragraph(s). Eventual further updates will follow in order to accommodate future amendments.

DISCLAIMER

This version has been prepared by the Agency in order to provide stakeholders with an updated and easy-to-read publication. It has been prepared by combining the officially published corresponding text of the regulation together with the Acceptable Means of Compliance and Guidance Material (including the amendments) adopted so far. However, this is not an official publication and the Agency accepts no liability for damage of any kind resulting from the risks inherent in the use of this document.

This document will be updated regularly if needed to take into account further amendments.

The format of this document has been adjusted in order to make it easier to read and for reference purposes. Readers are invited and encouraged to report to atm@easa.europa.eu any perceived errors, or comments relating to this publication.

COVER REGULATION

Article 1 Subject matter and scope

1. This Regulation lays down detailed rules for:

   (a) the conditions for issuing, suspending and revoking air traffic controllers and student air traffic controllers' licences, associated ratings and endorsements, and the privileges and responsibilities of those holding them;

   (b) the conditions for issuing, limiting, suspending and revoking air traffic controllers and student air traffic controllers' medical certificates, and the privileges and responsibilities of those holding them;

   (c) the certification of aero-medical examiners and aero-medical centres for air traffic controllers and student air traffic controllers;

   (d) the certification of air traffic controller training organisations;

   (e) the conditions for validating revalidating, renewing and using such licences, ratings, endorsements and certificates.

2. This Regulation shall apply to:

   (a) student air traffic controllers and air traffic controllers exercising their functions within the scope of Regulation (EC) No 216/2008;

   (b) persons and organisations involved in the licensing, training, testing, checking and medical examination and assessment of applicants in accordance with this Regulation.

Article 2 Compliance with requirements and procedures

1. The student air traffic controllers, the air traffic controllers and the persons involved in the licensing, training, testing, checking and medical examination and assessment of applicants referred to in Article 1(2)(a) and (b) shall be qualified and licensed in accordance with the provisions of Annexes I, III and IV by the competent authority referred to in Article 6.

2. The organisations referred to in Article 1(2)(b) shall be qualified in accordance with the technical requirements and administrative procedures laid down in Annexes I, III and IV and shall be certified by the competent authority referred to in Article 6.

3. The medical certification of the persons referred to in Article 1(2)(a) and (b) shall be compliant with the technical requirements and administrative procedures laid down in Annexes III and IV.

4. Air traffic controllers employed by air navigation service providers providing air traffic services in the airspace of the territory to which the Treaty applies and having their principal place of operations and their registered office, if any, located outside the territory subject to the provisions of the Treaty, shall be deemed to have been licenced in accordance with paragraph 1, where they meet both of the following conditions:

   (a) they hold an air traffic controller licence issued by a third country in accordance with Annex 1 to the Chicago Convention;

   (b) they have demonstrated to the competent authority referred to in Article 6 that they have received training and successfully passed examinations and assessments equivalent to those required by Part ATCO, Subpart D, Sections 1-4, set out in Annex I.

The tasks and functions assigned to the air traffic controllers referred to in the first subparagraph shall not exceed the privileges of the licence issued by the third country.

5. Practical instructors and assessors employed by a training organisation located outside the territory of the Member States shall be deemed to have been qualified in accordance with paragraph 1, where they meet both of the following conditions:

   (a) they hold an air traffic controller licence issued by a third country in accordance with Annex I of the Chicago Convention with a rating and, if applicable, rating endorsement corresponding to the one for which they are authorised to instruct or assess;

   (b) they have demonstrated to the competent authority referred to in Article 6 that they have received training and successfully passed examinations and assessments equivalent to those required by Part ATCO, Subpart D, Section 5, set out in Annex I.

The privileges referred to in the first subparagraph shall be specified in a certificate issued by a third country and shall be limited to provide instruction and assessment for training organisations located outside the territory of the Member States.

GM1 Article 2(2) Compliance with the requirements and procedures

AIR TRAFFIC CONTROLLER TRAINING ORGANISATION CERTIFICATION

For the purpose of ensuring that all organisations referred to in Article 1(2) comply with the technical requirements and administrative procedures of Article 2(2), air navigation service providers providing training to air traffic controllers according to Annex I, Part ATCO, Subpart D, are subject to the requirements applicable to air traffic controller training organisations set out in this Regulation and are subject to certification in accordance with Regulation (EC) No 216/2008 and Regulation (EU) 2015/340.

Article 3 Provision of air traffic control services

1. Air traffic control services shall only be provided by air traffic controllers qualified and licensed in accordance with this Regulation.

2. Subject to Article 1(3) of Regulation (EC) No 216/2008, Member States shall, as far as practicable, ensure that services provided or made available by military personnel to the public referred to in Article 1(2)(c) of that Regulation offer a level of safety that is at least equivalent to the level required by the essential requirements as defined in Annex Vb to that Regulation.

3. Member States may apply this Regulation to their military personnel providing services to the public.

Article 4 Definitions

For the purposes of this Regulation, the following definitions shall apply:

(1) ‘abnormal situation’ means circumstances, including degraded situations, which are neither routinely nor commonly experienced and for which an air traffic controller has not developed automatic skills;

(2) ‘acceptable means of compliance (AMC)’ means non-binding standards adopted by the Agency to illustrate means by which to establish compliance with Regulation (EC) No 216/2008 and its implementing rules;

(3) ‘air traffic control (ATC) service’ means a service provided for the purpose of:

   (a) preventing collisions:

      — between aircraft, and

      — in the manoeuvring area between aircraft and obstructions; and

(b) expediting and maintaining an orderly flow of air traffic;

(4) ‘air traffic control (ATC) unit’ means a generic term meaning variously, area control centre, approach control unit or aerodrome control tower;

(5) ‘alternative means of compliance’ means an alternative to an existing AMC or a new means to establish compliance with Regulation (EC) No 216/2008 and its implementing rules for which no associated AMC have been adopted by the Agency;

(6) ‘assessment’ means an evaluation of the practical skills leading to the issue of the licence, rating and/or endorsement(s) and their revalidation and/or renewal, including behaviour and the practical application of knowledge and understanding being demonstrated by the person being assessed;

(7) ‘assessor endorsement’ means the authorisation entered on and forming part of the licence, indicating the competence of the holder to assess the practical skills of student air traffic controller and air traffic controller;

(8) ‘critical incident stress’ means the manifestation of unusual and/or extreme emotional, physical and/or behavioural reactions in an individual following an unexpected event, an accident, an incident or serious incident;

(9) ‘emergency situation’ means a serious and dangerous situation requiring immediate actions;

(10) ‘examination’ means a formalised test evaluating the person's knowledge and understanding;

(11) ‘guidance material (GM)’ means non-binding material developed by the Agency that helps to illustrate the meaning of a requirement or specification and is used to support the interpretation of Regulation (EC) No 216/2008, its implementing rules and AMC;

(12) ‘ICAO location indicator’ means the four-letter code group formulated in accordance with the rules prescribed by ICAO in its manual 'DOC 7910' in its latest updated version and assigned to the location of an aeronautical fixed station;

(13) ‘language proficiency endorsement’ means the statement entered on and forming part of a licence, indicating the language proficiency of the holder;

(14) ‘licence’ means a document issued and endorsed in accordance with this Regulation and entitling its lawful holder to exercise the privileges of the ratings and endorsements contained therein;

(15) ‘on-the-job training instruction’ means the phase of unit training during which previously acquired job-related routines and skills are integrated in practice under the supervision of a qualified on-the-job training instructor in a live traffic situation;

(16) ‘on-the-job training instructor (OJTI) endorsement’ means the authorisation entered on and forming part of a licence, indicating the competence of the holder to give on-the-job training instruction and instruction on synthetic training devices;

(17) ‘part-task trainer (PTT)’ means a synthetic training device to provide training for specific and selected operational tasks without requiring the learner to practise all of the tasks which are normally associated with a fully operational environment;

(18) ‘performance objective’ means a clear and unambiguous statement of the performance expected of the person undertaking the training, the conditions under which the performance takes place and the standards that the person undertaking training should meet;

(19) ‘provisional inability’ means a temporary state in which the licence holder is prevented from exercising the privileges of the licence when ratings, endorsements and his/her medical certificate are valid;

(20) ‘psychoactive substance’ means alcohol, opioids, cannabinoids, sedatives and hypnotics, cocaine, other psychostimulants, hallucinogens, and volatile solvents, whereas caffeine and tobacco are excluded;

(21) ‘rating endorsement’ means the authorisation entered on and forming part of a licence, indicating the specific conditions, privileges or limitations pertaining to the relevant rating;

(22) ‘renewal’ means the administrative act taken after a rating, endorsement or certificate has expired that renew the privileges of the rating, endorsement or certificate for a further specified period subject to the fulfilment of specified requirements;

(23) ‘revalidation’ means the administrative act taken within the period of validity of a rating, endorsement or certificate that allows the holder to continue to exercise the privileges of a rating, endorsement or certificate for a further specified period subject to the fulfilment of specified requirements;

(24) ‘sector’ means a part of a control area and/or part of a flight information region or upper region;

(25) ‘simulator’ means a synthetic training device that presents the important features of the real operational environment and reproduces the operational conditions under which the person undertaking training can practice real-time tasks directly;

(26) ‘synthetic training device’ means any type of device by which operational conditions are simulated, including simulators and part-task trainers;

(27) ‘synthetic training device instructor (STDI) endorsement’ means the authorisation entered on and forming part of a licence, indicating the competence of the holder to give instruction on synthetic training devices;

(28) ‘training course’ means theoretical and/or practical instruction developed within a structured framework and delivered within a defined duration;

(29) ‘training organisation’ means an organisation which has been certified by the competent authority to provide one or more types of training;

(30) ‘unit endorsement’ means the authorisation entered on and forming part of a licence, indicating the ICAO location indicator and the sector, group of sectors or working positions where the licence holder is competent to work;

(31) ‘validation’ means a process by which, through the successful completion of a unit endorsement course associated to a rating or a rating endorsement, the holder may start exercising the privileges of that rating or rating endorsement.

AMC1 Article 4(1) Definitions

ABNORMAL SITUATION

Abnormal situations may include:

(a) circumstances arising from human error or violation of rules both within the ATC and aircraft operation;

(b) serious weather or volcanic perturbations; and

(c) technical system failures or malfunctions of aircraft and/or ATC ground-based systems.

GM1 Article 4(6) Definitions

ASSESSMENT

The formative evaluation of practical skills during training should not be considered as an assessment.

Article 5 Competent authority

1. Member States shall nominate or establish one or more competent authority(ies) with allocated responsibilities for the certification and oversight of persons and organisations subject to this Regulation.

2. Within a functional airspace block or in the case of cross-border service provision the competent authorities shall be designated by agreement of the Member States concerned.

3. If a Member State nominates or establishes more than one competent authority, the areas of competence of each competent authority shall be clearly defined in terms of responsibilities and geographical area, where appropriate. Coordination shall be established between those authorities to ensure effective oversight of all persons and organisations subject to this Regulation within their respective remits.

4. The competent authority(ies) shall be independent from air navigation service providers and training organisations. This independence shall be achieved through adequate separation, at least at functional level, of the competent authorities on the one hand and air navigation service providers and the training organisations on the other hand. The competent authorities shall exercise their powers impartially and transparently.

The first subparagraph also applies to the Agency, where it acts as a competent authority pursuant to Article 6(2)(b) and (3)(a)(ii).

5. Member States shall ensure that the competent authorities have the necessary capability to conduct the certification and oversight activities covered by their certification and oversight programmes, including sufficient resources to fulfil the requirements of Annex II (Part ATCO.AR). In particular, Member States shall use the assessments produced by the competent authorities in accordance with point ATCO.AR.A.005(a) of Annex II in order to demonstrate their capability.

6. Member States shall ensure that, with respect to the personnel of the competent authorities that carry out the oversight and certification activities under this Regulation, there is no direct or indirect conflict of interest, in particular relating to family or financial interests of the personnel concerned.

7. The competent authority(ies) nominated or established by a Member State for the purposes of Commission Regulation (EU) No 805/2011 shall be deemed to remain the competent authority for the purposes of this Regulation, unless otherwise determined by the Member State concerned. In the latter case, Member States shall notify the Agency of the name(s) and address(es) of the competent authority(ies) that they nominate or establish in application of this Article, as well as any changes thereto.

Article 6 Competent authority for the purposes of Annexes I, III and IV

1. For the purpose of Annex I, the competent authority shall be the authority(ies) nominated or established by the Member State to whom the person applies for the issue of a licence.

2. For the purpose of Annex III and for the oversight of the requirements of Annex I regarding air navigation service providers, the competent authority shall be:

   (a) the authority nominated or established by the Member State as its competent authority for oversight where the applicant has its principal place of operation or its registered office, if any, unless otherwise provided for in bilateral or multilateral agreements between Member States or their competent authorities;

   (b) the Agency, if the applicant has its principle place of operation or its registered office, if any, outside the territory of the Member States.

3. For the purpose of Annex IV, the competent authority shall be:

(a) for aero-medical centres:

(i) the authority designated by the Member State in which the aero-medical centre has its principal place of business;

(ii) the Agency, when the aero-medical centre is located in a third country;

(b) for aero-medical examiners:

(i) the authority designated by the Member State in which the aero-medical examiner has his or her principal place of practice;

(ii) if the principal place of practice of an aero-medical examiner is located in a third country, the authority designated by the Member State to which the applicant aero-medical examiner applies for the issue of the certificate.

Article 7 Transitional provisions

1. Licences, ratings and endorsements issued in accordance with the relevant provisions of national legislation based on Directive 2006/23/EC and licences, ratings and endorsements issued in accordance with Regulation (EU) No 805/2011 shall be deemed to have been issued in accordance with this Regulation.

2. The Area Control Procedural (ACP) rating with the Oceanic Control (OCN) rating endorsement issued on the basis of national rules based on Article 31(1) of Regulation (EU) No 805/2011 shall be deemed to have been issued in accordance with this Regulation.

3. Medical certificates and certificates for training organisations, aero-medical examiners and aero-medical centres, approvals of unit competence schemes and training plans issued in accordance with the relevant provisions of national legislation based on Directive 2006/23/EC in accordance with Regulation (EU) No 805/2011 shall be deemed to have been issued in accordance with this Regulation.

Article 8 Replacement of licences, adaptations of privileges, training courses and unit competence schemes

1. Member States shall replace the licences referred to in Article 7(1) with licences complying with the format laid down in Appendix 1 of Annex II to this Regulation by 31 December 2015, or 31 December 2016, when the Member State makes use of the derogation in Article 11(2), at the latest.

2. Member States shall replace the certificates for air traffic controller training organisations referred to in Article 7(3) with certificates complying with the format laid down in Appendix 2 of Annex II to this Regulation by 31 December 2015, or 31 December 2016, when the Member State makes use of the derogation in Article 11(2), at the latest.

3. Member States shall replace the certificates for aero-medical examiners and the certificates for aero-medical centres referred to in Article 7(3) with certificates complying with the format laid down in Appendices 3 and 4 of Annex II to this Regulation by 31 December 2015, or 31 December 2016, when the Member State makes use of the derogation in Article 11(2), at the latest.

4. The competent authorities shall convert the privileges of examiners and assessors for initial training pursuant to Article 20 of Commission Regulation (EU) No 805/2011 and of competence examiners and competence assessors for unit and continuation training approved by the competent authority pursuant to Article 24 of Regulation (EU) No 805/2011 into the privileges of an assessor endorsement pursuant to this Regulation, if appropriate, by 31 December 2015, or 31

December 2016, when the Member State makes use of the derogation in Article 11(2), at the latest.

5. The competent authorities may convert the privileges for national simulator or synthetic training device instructors into privileges for a synthetic training device instructor endorsement according to this Regulation, if appropriate, by 31 December 2015, or 31 December 2016, when the Member State makes use of the derogation in Article 11(2), at the latest

6. Air navigation service providers shall adapt their unit competence schemes to comply with the requirements of this Regulation by 31 December 2015, or 31 December 2016, when the Member State makes use of the derogation in Article 11(2), at the latest.

7. Air traffic controller training organisations shall adapt their training plans to comply with the requirements of this Regulation by 31 December 2015, or 31 December 2016, when the Member State makes use of the derogation in Article 11(2), at the latest.

8. Certificates of completion of training courses that started prior to the application of this Regulation in accordance with Regulation (EU) No 805/2011 shall be accepted for the purpose of the issue of the relevant licences, ratings and endorsements in accordance with this Regulation provided that the training and the assessment have been completed by 30 June 2016, or 30 June 2017, when the Member State makes use of the derogation in Article 11(2), at the latest.

Article 9 Amendment to Commission Implementing Regulation (EU) No 923/2012

In Article 2 of Commission Implementing Regulation (EU) No 923/2012, point 104 is replaced by the following:

‘104.“psychoactive substance” means alcohol, opioids, cannabinoids, sedatives and hypnotics, cocaine, other psychostimulants, hallucinogens, and volatile solvents, whereas caffeine and tobacco are excluded;’»

Article 10 Repeal

Commission Regulation (EU) No 805/2011 is repealed.

Article 11 Entry into force and application

1. This Regulation shall enter into force on the twentieth day following that of its publication in the Official Journal of the European Union.

It shall apply from 30 June 2015.

2. By way of derogation from paragraph 1, Member States may decide not to apply Annexes I to IV, in whole or in part, before 31 December 2016.

When a Member State makes use of this possibility, it shall notify the Commission and the Agency by 1 July 2015 at the latest. This notification shall describe the scope of the derogation(s) as well as the programme for implementation containing actions envisaged and related timing. In that case, the relevant provisions of Commission Regulation (EU) No 805/2011 shall continue to apply.

This Regulation shall be binding in its entirety and directly applicable in all Member States.

Done at Brussels, 20 February 2015.

ANNEX I

PART ATCO
REQUIREMENTS FOR THE LICENSING OF AIR TRAFFIC CONTROLLERS

SUBPART A — GENERAL REQUIREMENTS

ATCO.A.001 Scope

This Part, set out in this Annex, establishes the requirements for the issue, revocation and suspension of student air traffic controller licences and air traffic controller licences, their associated ratings and endorsements, and the conditions of their validity and use.

ATCO.A.005 Application for the issue of licences, ratings and endorsements

(a) An application for the issue of licences, ratings and endorsements shall be submitted to the competent authority in accordance with the procedure established by that authority.

(b) An application for the issue of further ratings or endorsements, for the revalidation or renewal of endorsements and for the reissue of the licence shall be submitted to the competent authority which issued that licence.

(c) The licence shall remain the property of the person to whom it is issued, unless it is revoked by the competent authority. The licence holder shall sign the licence.

(d) The licence shall specify all relevant information related to the privileges that are granted by the licence and shall comply with the requirements in Appendix 1 of Annex II.

ATCO.A.010 Exchange of licences

(a) If the licence holder is to exercise the privileges of the licence in a Member State for which the competent authority is not the one that issued the licence, the licence holder shall submit an application to exchange his/her licence for a licence issued by the competent authority of the Member State where the privileges are to be exercised in accordance with the procedure established by this authority, except where otherwise foreseen in agreements concluded among the Member States. For this purpose, the authorities involved shall share all the relevant information needed to carry out the licence exchange according to the procedures referred to in ATCO.AR.B.001(c).

(b) For the purposes of the exchange and for exercising the privileges of the licence in a Member State other than that in which the licence was issued, the licence holder must fulfil the language proficiency requirements referred to in ATCO.B.030 established by the respective Member State.

(c) The new licence shall include ratings, rating endorsements, licence endorsements and all valid unit endorsements in the licence, including the date of their first issue and expiry, if applicable.

(d) Following the receipt of the new licence, the licence holder shall submit an application referred to in ATCO.A.005 together with his/her air traffic controller licence in order to get new ratings, rating endorsements, licence endorsements or unit endorsements.

(e) Following the exchange, the previously issued licence shall be returned to the authority that issued it.

GM1 ATCO.A.010 Exchange of licences

RECOGNITION OF LICENCES AND CERTIFICATES

In accordance with Article 11 of Regulation (EC) No 216/2008, Member States shall recognise:

(a) air traffic controller and student air traffic controller licences, including their ratings, rating endorsements, on-the-job training instructor (OJTI), synthetic training device instructor (STDI) and assessor endorsements, as well as language proficiency endorsements and associated medical certificates issued by other Member States in accordance with this Regulation;

(b) certificates of air traffic controller training organisations, aero-medical examiners and aero-medical centres issued by other Member States in accordance with this Regulation; and

(c) certificates of completion of training courses issued by training organisations approved by other Member States leading to the grant of the ratings, endorsements and/or the student air traffic controller licence referred to in paragraph (a).

GM1 ATCO.A.010(a) Exchange of licences

EXERCISE OF PRIVILEGES OF THE LICENCE IN A DIFFERENT MEMBER STATE

(a) Licences should only be exchanged in cases there is certainty that the licence holder is going to exercise the privileges of the licence in a different Member State other than that in which the licence was issued.

(b) For this purpose, and with the intention of preventing unnecessary administrative burden, the competent authorities may require the licence holder, together with the application for exchange, to prove that he/she is going to receive unit training by an approved training organisation that truly permits him/her to exercise the privileges of the licence in that Member State.

GM2 ATCO.A.010(a) Exchange of licences

EXERCISE OF PRIVILEGES OF THE LICENCE IN TWO OR MORE MEMBER STATES

In cases where privileges are exercised in two or more Member States, the agreement concluded amongst the Member States concerned should define the allocation of tasks and the responsibilities related to licensing.

ATCO.A.015 Exercise of the privileges of licences and provisional inability

(a) The exercise of the privileges granted by a licence shall be dependent on the validity of the ratings, endorsements and of the medical certificate.

(b) Licence holders shall not exercise the privileges of their licence when having doubts of being able to safely exercise the privileges of the licence and shall in such cases immediately notify the relevant air navigation service provider of the provisional inability to exercise the privileges of their licence.

(c) Air navigation service providers may declare the provisional inability of the licence holder if they become aware of any doubt concerning the ability of the licence holder to safely exercise the privileges of the licence.

(d) Air navigation service providers shall develop and implement objective, transparent and non-discriminatory procedures to enable licence holders declaring provisional inability to exercise the privileges of their licence in accordance with point (b), to declare the provisional inability of the licence holder in accordance with point (c), to manage the operational impact of provisional inability cases and to inform the competent authority as defined in that procedure.

(e) The procedures referred to in point (d) shall be included in the unit competence scheme according to ATCO.B.025(a)(13).

GM1 ATCO.A.015(b) Exercise of the privileges of licences and provisional inability

GROUNDS FOR PROVISIONAL INABILITY

Examples of grounds for doubting the ability to safely exercise the privileges of the licence may be that the licence holder is:

under the influence of psychoactive substances;

(a) unfit to perform the duties due to injury, fatigue, sickness, stress, including critical incident stress or other similar causes;

(b) not meeting all the competence-related requirements set out in the unit competence scheme.

GM1 ATCO.A.015(c) Exercise of the privileges of licences and provisional inability

In case of doubt about the medical condition of the air traffic controller, the provisions of ATCO.MED.A.020 should apply.

GM1 ATCO.A.015(d) Exercise of the privileges of licences and provisional inability

PROCEDURES

The procedures developed and implemented to enable licence holders declaring provisional inability to exercise the privileges of their licence, to manage the operational impact of provisional inability cases and to inform the competent authority should include but are not limited to:

(a) the processes to declare and terminate provisional inability;

(b) an indicative list of cases when the competent authority shall be informed of the declaration or termination of the provisional inability;

(c) the processes to inform the competent authority; and

(d) the mitigating measures to be implemented to ensure sufficient capacity and the continuity of the service.

ATCO.A.020 Revocation and suspension of licences, ratings and endorsements

(a) Licences, ratings and endorsements may be suspended or revoked by the competent authority according to ATCO.AR.D.005 when the licence holder does not comply with the requirements of this Part.

(b) When the licence holder has his/her licence revoked, he/she shall immediately return the licence to the competent authority according to the administrative procedures established by that authority.

(c) With the issue of the air traffic controller licence the student air traffic controller licence is revoked and shall be returned to the competent authority which is issuing the air traffic controller licence.

SUBPART B — LICENCES, RATINGS AND ENDORSEMENTS

ATCO.B.001 Student air traffic controller licence

(a) Holders of a student air traffic controller licence shall be authorised to provide air traffic control services in accordance with the rating(s) and rating endorsement(s) contained in their licence under the supervision of an on-the-job training instructor and to undertake training for rating endorsement(s).

(b) Applicants for the issue of a student air traffic controller licence shall:

(1) be at least 18 years old;

(2) have successfully completed initial training at a training organisation satisfying the requirements laid down in Annex III (Part ATCO.OR) relevant to the rating, and if applicable, to the rating endorsement, as set out in Part ATCO, Subpart D, Section 2;

(3) hold a valid medical certificate;

(4) have demonstrated an adequate level of language proficiency in accordance with the requirements set out in ATCO.B.030.

(c) The student air traffic controller licence shall contain the language endorsement(s) and at least one rating and, if applicable, one rating endorsement.

(d) The holder of a student air traffic controller licence who has not started exercising the privileges of that licence within one year from the date of its issue or has interrupted exercising those privileges for a period of more than one year may only start or continue unit training in that rating after an assessment of his/her previous competence, conducted by a training organisation satisfying the requirements laid down in Annex III (Part ATCO.OR) and certified to provide initial training relevant to the rating, as to whether he/she continues to satisfy the requirements relevant to that rating, and after satisfying any training requirements resulting from this assessment.

GM1 ATCO.B.001(b) Student air traffic controller licence

MATURITY OF AIR TRAFFIC CONTROLLERS

Persons who wish to undertake air traffic controller training at a training organisation satisfying the requirements laid down in Annex III (Part ATCO.OR) should be educationally, physically and mentally sufficiently mature. In order to assess their ability to complete air traffic controller training, training organisations may conduct aptitude assessments and/or set out educational or similar requirements which could serve as a prerequisite for commencing air traffic controller training.

AMC1 ATCO.B.001(d) Student air traffic controller licence

ASSESSMENT OF PREVIOUS COMPETENCE

When establishing previous competence in a rating, the assessment should be based on the requirements set out in Part ATCO, Subpart D, Section 2.

ATCO.B.005 Air traffic controller licence

(a) Holders of an air traffic controller licence shall be authorised to provide air traffic control services in accordance with the ratings and rating endorsements of their licence, and to exercise the privileges of the endorsements contained therein.

(b) The privileges of an air traffic controller licence shall include the privileges of a student air traffic controller licence as set out in ATCO.B.001(a).

(c) Applicants for the first issue of an air traffic controller licence shall:

(1) hold a student air traffic controller licence;

(2) have completed a unit endorsement course and successfully passed the appropriate examinations and assessments in accordance with the requirements set out in Part ATCO, Subpart D, Section 3;

(3) hold a valid medical certificate;

(4) have demonstrated an adequate level of language proficiency in accordance with the requirements set out in ATCO.B.030.

(d) The air traffic controller licence shall be validated by the inclusion of one or more ratings and the relevant rating, unit and language proficiency endorsements for which the training was successful.

(e) The holder of an air traffic controller licence who has not started exercising the privileges of any rating within one year from the date of its issue may only start unit training in that rating after an assessment of his/her previous competence, conducted by a training organisation satisfying the requirements laid down in Annex III (Part ATCO.OR) and certified to provide initial training relevant to the rating, as to whether he/she continues to satisfy the requirements relevant to that rating, and after satisfying any training requirements resulting from this assessment.

ATCO.B.010 Air traffic controller ratings

(a) Licences shall contain one or more of the following ratings in order to indicate the type of service which the licence holder is authorised to provide:

(1) the Aerodrome Control Visual (ADV) rating, indicating that the licence holder is competent to provide an air traffic control service to aerodrome traffic at an aerodrome that has no published instrument approach or departure procedures;

(2) the Aerodrome Control Instrument (ADI) rating, indicating that the licence holder is competent to provide an air traffic control service to aerodrome traffic at an aerodrome that has published instrument approach or departure procedures and shall be accompanied by at least one of the rating endorsements described in ATCO.B.015(a);

(3) the Approach Control Procedural (APP) rating, indicating that the licence holder is competent to provide an air traffic control service to arriving, departing or transiting aircraft without the use of surveillance equipment;

(4) the Approach Control Surveillance (APS) rating, indicating that the licence holder is competent to provide an air traffic control service to arriving, departing or transiting aircraft with the use of surveillance equipment;

(5) the Area Control Procedural (ACP) rating, indicating that the licence holder is competent to provide an air traffic control service to aircraft without the use of surveillance equipment;

(6) the Area Control Surveillance (ACS) rating, indicating that the licence holder is competent to provide an air traffic control service to aircraft with the use of surveillance equipment.

(b) The holder of a rating who has interrupted exercising the privileges associated with that rating for a period of four or more immediately preceding consecutive years may only start unit training in that rating after assessment of previous competence, conducted by a training organisation satisfying the requirements laid down in Annex III (Part ATCO.OR) and certified to provide training relevant to the rating, as to whether the person concerned continues to satisfy the conditions of that rating, and after satisfying any training requirements resulting from this assessment.

AMC1 ATCO.B.010(b) Air traffic controller ratings

ASSESSMENT OF PREVIOUS COMPETENCE

When establishing previous competence in a rating, the assessment should be based on the requirements set out in Part ATCO, Subpart D, Section 2.

ATCO.B.015 Rating endorsements

(a) The Aerodrome Control Instrument (ADI) rating shall bear at least one of the following endorsements:

(1) the Air Control (AIR) endorsement, indicating that the licence holder is competent to provide air control to traffic flying in the vicinity of an aerodrome and on the runway;

(2) the Ground Movement Control (GMC) endorsement, indicating that the licence holder is competent to provide ground movement control;

(3) the Tower Control (TWR) endorsement, indicating that the licence holder is competent to provide aerodrome control service. The TWR endorsement includes the privileges of the AIR and GMC endorsements;

(4) the Ground Movement Surveillance (GMS) endorsement, granted in addition to the Ground Movement Control endorsement or Tower Control endorsement, indicating that the licence holder is competent to provide ground movement control with the help of aerodrome surface movement guidance systems;

(5) the Aerodrome Radar Control (RAD) endorsement, granted in addition to the Air Control endorsement or Tower Control endorsement, indicating that the licence holder is competent to provide aerodrome control with the help of surveillance radar equipment.

(b) The Approach Control Surveillance (APS) rating may bear one or more of the following endorsements:

(1) the Precision Approach Radar (PAR) endorsement, indicating that the licence holder is competent to provide ground-controlled precision approaches with the use of precision approach radar equipment to aircraft on the final approach to the runway;

(2) the Surveillance Radar Approach (SRA) endorsement, indicating that the licence holder is competent to provide ground-controlled non-precision approaches with the use of surveillance equipment to aircraft on the final approach to the runway;

(3) the Terminal Control (TCL) endorsement, indicating that the licence holder is competent to provide air traffic control services with the use of any surveillance equipment to aircraft operating in a specified terminal area and/or adjacent sectors.

(c) The Area Control Procedural (ACP) rating may bear the Oceanic Control (OCN) endorsement, indicating that the holder of the licence is competent to provide air traffic control services to aircraft operating in an Oceanic Control Area.

(d) The Area Control Surveillance (ACS) rating may bear one of the following endorsements:

(1) the Terminal Control (TCL) endorsement, indicating that the licence holder is competent to provide air traffic control services with the use of any surveillance equipment to aircraft operating in a specified terminal area and/or adjacent sectors;

(2) the Oceanic Control (OCN) endorsement, indicating that the licence holder is competent to provide air traffic control services to aircraft operating in an Oceanic Control Area.

GM1 ATCO.B.015(a)(3) Air traffic controller rating endorsements

TOWER CONTROL ENDORSEMENT PRIVILEGES

Where aerodrome control is provided from one operational position, this shall be indicated in the ATC licence by the issue of a Tower Control (TWR) endorsement to the Aerodrome Control Instrument rating. Aerodrome control may either be one operational position or be divided between two operational positions, Ground Movement Control (GMC) and Air Control (AIR). Consequently, the TWR endorsement entitles the holder of that rating endorsement to either provide aerodrome control from one working position or to provide AIR or GMC separately.

ATCO.B.020 Unit endorsements

(a) The unit endorsement shall authorise the licence holder to provide air traffic control services for a specific sector, group of sectors and/or working positions under the responsibility of an air traffic services unit.

(b) Applicants for a unit endorsement shall have successfully completed a unit endorsement course in accordance with the requirements set out in Part ATCO, Subpart D, Section 3.

(c) Applicants for a unit endorsement following an exchange of a licence referred to in ATCO.A.010 shall, in addition to the requirements set out in point (b), meet the requirements of ATCO.D.060(f).

(d) For air traffic controllers providing air traffic control services to aircraft carrying out flight tests, the competent authority may, in addition to the requirements set out in point (b), set out additional requirements to be met.

(e) Unit endorsements shall be valid for a period defined in the unit competence scheme. This period shall not exceed three years.

(f) The validity period of unit endorsements for initial issue and renewal shall start not later than 30 days from the date on which the assessment has been successfully completed.

(g) Unit endorsements shall be revalidated if:

(1) the applicant has been exercising the privileges of the licence for a minimum number of hours as defined in the unit competence scheme;

(2) the applicant has undertaken refresher training within the validity period of the unit endorsement according to the unit competence scheme;

(3) the applicant's competence has been assessed in accordance with the unit competence scheme not earlier than three months prior to the expiry date of the unit endorsement.

(h) Unit endorsements shall be revalidated, provided that the requirements set out in point (g) are met, within the 3-month period immediately preceding their expiry date. In such cases the validity period shall be counted from that expiry date.

(i) If the unit endorsement is revalidated before the period provided for in point (h), its validity period shall start not later than 30 days from the date on which the assessment has been successfully completed, provided that the requirements in point (g)(1) and (2) are also met.

(j) If the validity of a unit endorsement expires, the licence holder shall successfully complete the unit endorsement course in accordance with the requirements set out in Part ATCO, Subpart D, Section 3 in order to renew the endorsement.

AMC1 ATCO.B.020(a) Unit endorsements

GENERAL

When aerodrome control service is provided from a remote location, each aerodrome should constitute its own unit endorsement.

AMC1 ATCO.B.020(e) Unit endorsements

VALIDITY OF THE UNIT ENDORSEMENT

When establishing the validity of a unit endorsement, the specificities of the unit and seasonal variations should be taken into account.

Appropriate means should be in place to monitor the competence of the air traffic controllers. The means should be proportionate to the validity time.

If the proposed validity time of the unit endorsement exceeds 12 months, additional means should be in place to monitor and ensure the continuous competence of the air traffic controllers.

If the ATC unit is proposing to increase the validity time of the unit endorsement, a safety assessment should be conducted. The safety assessment may cover several units.

AMC1 ATCO.B.020(g)(3) Unit endorsements

PRACTICAL SKILLS ASSESSMENT FOR REVALIDATION OF EACH UNIT ENDORSEMENT

(a) If the assessment of practical skills is taking the form of a dedicated assessment consisting of a single assessment or a series of assessments, the last assessment declaring the licence holder competent should take place within the three-month period immediately preceding the unit endorsement expiry date.

(b) If the assessment of practical skills is taking the form of a continuous assessment by which the air traffic controller's competence is assessed along a defined period of time, the formal conclusion on declaring the licence holder competent should take place within the three-month period immediately preceding the unit endorsement expiry date.

GM1 ATCO.B.020(i) Unit endorsements

COMMENCEMENT OF UNIT ENDORSEMENT VALIDITY IN CASE OF EARLY REVALIDATION

For the purpose of establishing the validity period of the unit endorsement in case of early revalidation, the date of the assessment should be the date of the:

(a) last assessment declaring the licence holder competent in case of a dedicated assessment; and

(b) formal conclusion of declaring the licence holder competent in case of continuous assessment.

ATCO.B.025 Unit competence scheme

(a) Unit competence schemes shall be established by the air navigation service provider and approved by the competent authority. It shall include at least the following elements:

(1) the validity of the unit endorsement in accordance with ATCO.B.020(e);

(2) the maximum continuous period when the privileges of a unit endorsement are not exercised during its validity. This period shall not exceed 90 calendar days;

(3) the minimum number of hours for exercising the privileges of the unit endorsement within a defined period of time, which shall not exceed 12 months, for the purpose of ATCO.B.020(g)(1). For on-the-job training instructors exercising the privileges of the OJTI endorsement the time spent instructing shall be counted for the maximum of 50 % of the hours required for revalidation of the unit endorsement.

(4) procedures for the cases where the licence holder does not meet the requirements set out in point (a)(2) and (3);

(5) processes for assessing competence, including assessment of the refresher training subjects according to ATCO.D.080(b);

(6) processes for the examination of theoretical knowledge and understanding necessary to exercise privileges of the ratings and endorsements;

(7) processes to identify the topics and subtopics, objectives and training methods for continuation training;

(8) the minimum duration and frequency of the refresher training;

(9) processes for the examination of theoretical knowledge and/or the assessment of practical skills acquired during conversion training, including pass marks for examinations;

(10) processes in case of failure of an examination or assessment, including the appeal processes;

(11) training personnel qualifications, roles and responsibilities;

(12) procedure to ensure that practical instructors have practised instructional techniques in the procedures in which it is intended to provide instruction in accordance with ATCO.C.010(b)(3) and ATCO.C.030(b)(3);

(13) procedures for the declaration and the management of cases of provisional inability to exercise the privileges of a licence, as well as for informing the competent authority in accordance with ATCO.A.015(d);

(14) identification of records to be kept specific to continuation training and assessments, in accordance with ATCO.AR.B.015;

(15) process and reasons for reviewing and amending the unit competence scheme and its submission to the competent authority. The review of the unit competence scheme shall take place at least once every three years.

(b) In order to comply with the requirement set out in point (a)(3), air navigation service providers shall keep records of the hours, during which each licence holder exercises the privileges of his/her unit endorsement working in sectors, group of sectors and/or working positions in the ATC unit and shall provide that data to the competent authorities and to the licence holder upon request.

(c) When establishing the procedures referred to in point (a)(4) and (13) air navigation service providers shall ensure that mechanisms are applied to guarantee fair treatment of licence holders where the validity of their endorsements cannot be extended.

GM1 ATCO.B.025(a)(3) Unit competence scheme

MINIMUM NUMBER OF HOURS

The minimum number of hours should be defined for each unit endorsement and it should be identical for each unit endorsement holder within the same unit.

For licence holders holding more than one unit endorsement in the same ATC unit, the minimum number of hours may be defined as a combined value based on the assessment provided by the air navigation service provider.

Nevertheless, maintaining competence should be appropriately ensured for all valid unit endorsements.

AMC1 ATCO.B.025(a)(5);(6) Unit competence scheme

PROCESSES FOR ASSESSING COMPETENCE AND EXAMINING THEORETICAL KNOWLEGDE AND UNDERSTANDING

(a) The practical performance and skills should be assessed in live traffic situations.

(b) Theoretical competence should be examined to ascertain the knowledge and understanding of air traffic controllers.

(c) Subjects taught during refresher training such as standard practices and procedures, abnormal and emergency situations and human factors should be assessed on STD or in other simulated environments and/or examined.

GM1 ATCO.B.025(a)(5) Unit competence scheme

ASSESSMENTS

(a) Assessments may have one or more components.

(b) One component should be the assessment of practical skills; other components may be oral and/or written examinations.

(c) Practical skills assessments should be conducted as continuous assessment or dedicated practical assessment(s).

(d) Continuous assessment

Continuous assessment should be achieved by the assessor assessing, during normal operational duties, the operational performance compared to the standard of the air traffic control service expected.

Where the assessor has not been able to adequately assess the air traffic controller by continuous assessment, he/she should not certify the air traffic controller's competence until a dedicated practical assessment has been conducted.

(e) Dedicated practical assessment

A dedicated practical assessment may consist of a single assessment or a series of assessments.

To conduct a dedicated practical assessment, the assessor(s) should sit with the air traffic controller with the purpose of assessing, under normal operational conditions, the operational performance compared to the standard of the air traffic control service expected.

The air traffic controller concerned should be advised that a dedicated practical assessment is to be conducted and be briefed on the conduct of the assessment.

For those situations where an applicant's performance cannot be observed at the time of the assessment (e.g. low visibility operations, snow clearing, military activity, etc.), the assessment may be supplemented by synthetic training device sessions and/or an oral examination.

(f) The performance objectives' topics to be assessed should be determined in detail by the air navigation service provider. Examples of performance objectives' topics are as follows:

— application of unit regulations and procedures (e.g. minimum separation standards, letters of agreement, Aeronautical Information Publications);

— traffic analysis and planning;

— task priority setting;

— communication, including phraseology;

— capacity and expedition;

— accuracy;

— initiative, adaptability and decision-making;

— air traffic control techniques;

— teamwork and other human factors skills;

— the level of risk associated with the tasks performed (e.g. attitudes to risk).

(g) Procedures when failing

Notwithstanding ATCO.B.025(a)(10), when an air traffic controller fails in one or more of the components of the assessment, he/she should not be allowed to exercise the privilege of this unit endorsement, and provisional inability in accordance with ATCO.A.015(b) may be declared until a successful competence assessment has been performed. Resitting the full competence assessment or the failed part only may be required.

(h) Record keeping

The results of all assessments, including those of the continuous assessment, and examinations should be documented and stored confidentially, accessible to the assessor and the person being assessed.

GM2 ATCO.B.025(a)(5) Unit competence scheme

ASSESSMENTS

Assessments should be adapted to the validity time of the unit endorsement of the ATC unit.

The assessment of air traffic controllers at ATC units with seasonal variations should reflect the higher volume and complexity situations.

GM3 ATCO.B.025(a)(5) Unit competence scheme

ASSESSMENTS OF REFRESHER TRAINING SUBJECTS

(a) Assessments should be conducted primarily on a synthetic training device or offline environments.

(b) Assessments should be conducted by appropriately qualified personnel having detailed knowledge of:

(1) the training objectives; and

(2) the subjects, topics and subtopics being examined or assessed.

GM1 ATCO.B.025(a)(6) Unit competence scheme

ORAL EXAMINATIONS

Oral examinations should be used to test understanding of applicable techniques and the rules governing them, particularly of unit and national air traffic control procedures. Scenario-type questioning allows the assessor to gather additional evidence of how an air traffic controller would react in circumstances that are not observable but are nevertheless considered important to the overall operation at that ATC unit.

The oral examination should give a clear indication that the air traffic controller knows not only what he/she should be doing, but why he/she should be doing it. The oral examination requires considerable skills and it should be undertaken in a way to ensure consistency among individual assessors.

GM1 ATCO.B.025(a)(9) Unit competence scheme

EXAMINATIONS AND ASSESSMENTS DURING CONVERSION TRAINING

(a) Assessments should be conducted primarily on a synthetic training device or offline environments.

(b) Examinations and assessments should be conducted by appropriately qualified personnel having detailed knowledge of:

(1) the training objectives; and

(2) the subjects, topics and subtopics being examined or assessed.

ATCO.B.030 Language proficiency endorsement

(a) Air traffic controllers and student air traffic controllers shall not exercise the privileges of their licences unless they have a valid language proficiency endorsement in English and, if applicable, in the language(s) imposed by the Member State for reasons of safety at the ATC unit as published in the Aeronautical Information Publications. The language proficiency endorsement shall indicate the language(s), the level(s) of proficiency and the expiry date(s).

(b) The language proficiency level shall be determined in accordance with the rating scale set out in Appendix 1 of Annex I.

(c) The applicant for any language proficiency endorsement shall demonstrate, in accordance with the rating scale referred to in point (b), at least an operational level (level four) of language proficiency.

To do so, the applicant shall:

(1) communicate effectively in voice only (telephone/radiotelephone) and in face-to-face situations;

(2) communicate on common, concrete and work-related topics with accuracy and clarity;

(3) use appropriate communicative strategies to exchange messages and to recognise and resolve misunderstandings in a general or work-related context;

(4) handle successfully and with relative ease the linguistic challenges presented by a complication or unexpected turn of events that occur within the context of a routine work situation or communicative task with which they are otherwise familiar; and

(5) use a dialect or accent which is intelligible to the aeronautical community.

(d) Notwithstanding point (c), extended level (level five) of the language proficiency rating scale set out in Appendix 1 of Annex I may be required by the air navigation service provider, where the operational circumstances of the particular rating or endorsement warrant a higher level of language proficiency for imperative reasons of safety. Such a requirement shall be non-discriminatory, proportionate, transparent, and objectively justified by the air navigation service provider wishing to apply the higher level of proficiency and shall be approved by the competent authority.

(e) Language proficiency shall be demonstrated by a certificate attesting the result of the assessment.

ATCO.B.035 Validity of language proficiency endorsement

(a) The validity of the language proficiency endorsement, depending on the level determined in accordance with Appendix 1 of Annex I, shall be:

(1) for operational level (level four), three years from the date of assessment; or

(2) for extended level (level five), six years from the date of assessment;

(3) for expert level (level six):

(i) nine years from the date of assessment, for the English language;

(ii) unlimited, for any other language(s) referred to in ATCO.B.030(a).

(b) The validity period of the language proficiency endorsements for initial issue and renewal shall start not later than 30 days from the date on which the language proficiency assessment has been successfully completed.

(c) Language proficiency endorsements shall be revalidated following successful completion of the language proficiency assessment taking place within three months immediately preceding their expiry date. In such cases the new validity period shall be counted from that expiry date.

(d) If the language proficiency endorsement is revalidated before the period provided for in point (c), its validity period shall start not later than 30 days from the date on which the language proficiency assessment has been successfully completed.

(e) When the validity of a language proficiency endorsement expires, the licence holder shall successfully complete a language proficiency assessment in order to have his/her endorsement renewed.

AMC1 ATCO.B.035(a)(3)(i) Validity of language proficiency endorsement

VALIDITY OF THE LANGUAGE ENDORSEMENT OF PROFICIENCY LEVEL 6 IN ENGLISH LANGUAGE

When replacing the licences according to Article 8(1) of Regulation (EU) 2015/340, the validity period for the expert level (level six) language proficiency endorsements shall be introduced into the new licence.

The nine-year validity period for an expert level (level six) language proficiency endorsement in English should be counted from the date of the issue of the new licence or from the date of the assessment.

ATCO.B.040 Assessment of language proficiency

(a) The demonstration of language proficiency shall be done through a method of assessment approved by the competent authority, which shall contain:

(1) the process by which an assessment is done;

(2) the qualification of the assessors;

(3) the appeals procedure.

(b) Language assessment bodies shall comply with the requirements established by the competent authorities according to ATCO.AR.A.010.

AMC1 ATCO.B.040 Assessment of language proficiency

GENERAL

(a) The language proficiency assessment should be designed to reflect the tasks undertaken by air traffic controllers, but with specific focus on language rather than operational procedures and knowledge.

(b) The assessment should determine the applicant's ability to communicate effectively using visual and non-visual communication in both routine and non-routine situations.

AMC2 ATCO.B.040 Assessment of language proficiency

ASSESSMENT

(a) The assessment should comprise the following three elements:

(1) listening — assessment of comprehension;

(2) speaking — assessment of pronunciation, fluency, structure and vocabulary;

(3) interaction.

(b) The switch between phraseology and plain language should be assessed for listening and speaking proficiency.

(c) When the assessment is not conducted in a face-to-face situation, it should use appropriate technologies for the assessment of the applicant's abilities in listening and speaking, and for enabling interactions.

(d) In case of revalidation of the language proficiency endorsement, the assessment may be conducted during training activities or on operational position, with prior notification to the air traffic controller to be assessed.

(e) Irrespective of the way the assessment is organised, the requirements listed in (a) and (b) as well as the relevant provisions for language proficiency assessors should be met.

AMC3 ATCO.B.040 Assessment of language proficiency

LANGUAGE PROFICIENCY ASSESSORS

(a) Persons responsible for language proficiency assessment should be suitably trained and qualified.

(b) Language proficiency assessors should undergo regular refresher training on language assessment skills.

(c) Language proficiency assessors should not conduct language proficiency assessments whenever their objectivity may be affected.

AMC4 ATCO.B.040 Assessment of language proficiency

CRITERIA FOR THE ACCEPTABILITY OF LANGUAGE ASSESSMENT BODIES

(a) A language assessment body should provide clear information about its organisation and its relationships with other organisations.

(b) If a language assessment body is also an air traffic controller training organisation, there should be a clear and documented separation between the two activities.

(c) The language assessment body should employ a sufficient number of qualified interlocutors and language proficiency assessors to administer the required tests.

(d) The assessment documentation should include at least the following:

(1) assessment objectives;

(2) assessment layout, timescale, technologies used, assessment samples, voice samples;

(3) assessment criteria and standards (at least for the operational, extended and expert levels of the rating scale in Appendix 1 to Annex I to Regulation (EU) 2015/340);

(4) documentation demonstrating the assessment validity, relevance and reliability for the operational and extended levels;

(5) documentation demonstrating the assessment validity, relevance and reliability for the expert level;

(6) procedures to ensure that language assessments are standardised within the language assessment body and in the ATC community;

(7) assessment procedures and responsibilities, such as:

— preparation of individual assessment;

— administration: location(s), identity check and invigilation, assessment discipline, confidentiality/security;

— reporting and documentation provided to the competent authority and/or to the applicant, including sample certificate; and

— retention of documents and records.

(8) The assessment documentation and records should be kept for a period of time determined by the competent authority and made available to the competent authority upon request.

GM1 ATCO.B.040 Assessment of language proficiency

LANGUAGE PROFICIENCY ASSESSORS

(a) Persons responsible for language proficiency assessment should be either aviation specialists (e.g. current or former air traffic controllers) or language specialists with additional aviation-related training. The preferred approach for an assessment would be to form a team consisting of an operational expert and a language expert.

(b) Language proficiency assessors should be trained in the requirements specific to the language proficiency assessment, and assessment and interlocution techniques.

GM2 ATCO.B.040 Assessment of language proficiency

Further information can be found in the 'Manual on the Implementation of ICAO Language Proficiency Requirements' (ICAO Doc 9835) and the Language Testing Criteria for Global Harmonization (ICAO Cir 318 AN/180).

ATCO.B.045 Language training

(a) Air navigation service providers shall make available language training to maintain the required level of language proficiency of air traffic controllers to:

(1) holders of language proficiency endorsement at operational level (level four);

(2) licence holders without the opportunity to apply their skills on a regular basis in order to maintain their language skills.

(b) Language training may also be made available in the form of continuous training.

AMC1 ATCO.B.045 Language training

(a) Language training should contain communication in a job-related context particularly to handle abnormal and emergency situations and conduct non-routine coordination with colleagues, crews and technical staff.

(b) Emphasis should be placed on listening comprehension, speaking interaction and vocabulary building.

GM1 ATCO.B.045 Language training

While it is true that many licence holders regularly have prolonged and extensive opportunities to practise — and so to maintain — their language proficiency, it is also true that a purely routine use of the language through phraseology, standard procedures and limited social contact only maintains a restricted core usage of the language which might be quite inadequate for managing unexpected and abnormal situations.

Research shows that language proficiency erosion (language attrition) occurs rapidly over time; the lower the initial level, the faster the rate of erosion unless systematic strategies and a high degree of motivation counter this trend.

It is very well documented that one's language and communicative proficiency, even in one's native language, deteriorates sharply under stress, therefore, it is recommended that licence holders participate in available language training.

GM2 ATCO.B.045 Language training

Training for language proficiency skills may be delegated to language training organisations with knowledge in the field of aviation.

SUBPART C — REQUIREMENTS FOR INSTRUCTORS AND ASSESSORS

SECTION 1
INSTRUCTORS

ATCO.C.001 Theoretical instructors

(a) Theoretical training shall only be carried out by appropriately qualified instructors.

(b) A theoretical instructor is appropriately qualified if he/she:

(1) holds an air traffic controller licence and/or holds a professional qualification appropriate to the subject being taught and/or has demonstrated adequate knowledge and experience to the training organisation;

(2) has demonstrated instructional skills to the training organisation.

GM1 ATCO.C.001(b)(1) Theoretical instructors

QUALIFICATION OF THEORETICAL INSTRUCTORS

Professional qualification appropriate to the subject should ensure sufficient level of current knowledge, which is relevant to the subject and its application in air traffic control.

AMC1 ATCO.C.001(b)(2) Theoretical instructors

INSTRUCTIONAL SKILLS FOR THEORETICAL INSTRUCTORS

A satisfactory demonstration of instructional skills for theoretical instructors should establish competence at least in the following areas:

(a) lesson objectives are defined and communicated;

(b) subject questions are fully answered;

(c) visual aids are used appropriately;

(d) language is unambiguous;

(e) the lesson is correctly summarised; and

(f) lesson objectives are fulfilled.

ATCO.C.005 Practical instructors

A person shall only carry out practical training when he/she holds an air traffic controller licence with an on-the-job training instructor (OJTI) endorsement or a synthetic training device instructor (STDI) endorsement.

ATCO.C.010 On-the-job training instructor (OJTI) privileges

(a) Holders of an OJTI endorsement are authorised to provide practical training and supervision on operational working positions for which a valid unit endorsement is held and on synthetic training devices in the ratings held.

(b) Holders of an OJTI endorsement shall only exercise the privileges of the endorsement if they have:

(1) exercised for at least two years the privilege of the rating they will instruct in;

(2) exercised for an immediately preceding period of at least six months the privilege of the valid unit endorsement, in which instruction will be given;

(3) practised instructional skills in those procedures in which it is intended to provide instruction.

(c) The period of two years referred to in point (b)(1) can be shortened to not less than one year by the competent authority when requested by the training organisation.

GM1 ATCO.C.010(c) On-the-job training instructor (OJTI) privileges

SHORTENING OF THE RATING EXPERIENCE REQUIREMENT FOR OJTI

When assessing the training organisations' request for the shortening of the rating experience requirement for OJTIs, the competent authority should take into account the complexity of the traffic in the unit where the on-the-job instruction is provided, as well as the impact on the continuity and safety aspects of the service.

ATCO.C.015 Application for on-the-job training instructor endorsement

Applicants for the issue of an OJTI endorsement shall:

(a) hold an air traffic controller licence with a valid unit endorsement;

(b) have exercised the privileges of an air traffic controller licence for a period of at least two years immediately preceding the application. This period can be shortened to not less than one year by the competent authority when requested by the training organisation; and

(c) within the year preceding the application, have successfully completed a practical instructional techniques course during which the required knowledge and pedagogical skills are taught and have been appropriately assessed.

GM1 ATCO.C.015(b) Application for on-the-job training instructor endorsement

SHORTENING OF THE LICENCE EXPERIENCE REQUIREMENT FOR OJTI

When assessing the training organisations' request for the shortening of the licence experience requirement for OJTIs, the competent authorities should take into account the complexity of the traffic in the unit where the on-the-job instruction is provided, as well as the impact on the continuity and safety aspects of the service.

ATCO.C.020 Validity of on-the-job training instructor endorsement

(a) The OJTI endorsement shall be valid for a period of three years.

(b) The OJTI endorsement may be revalidated by successfully completing refresher training on practical instructional skills during its validity period, provided that the requirements of ATCO.C.015(a) and (b) are met.

(c) If the OJTI endorsement has expired, it may be renewed by:

(1) receiving refresher training on practical instructional skills; and

(2) successfully passing a practical instructor competence assessment;

within the year preceding the application for renewal, provided that the requirements of ATCO.C.015(a) and (b) are met.

(d) In the case of first issue and renewal the period of validity of the OJTI endorsement shall start not later than 30 days from the date on which the assessment has been successfully completed.

(e) If the requirements of ATCO.C.015(a) and (b) are not met the OJTI endorsement may be exchanged for an STDI endorsement, provided that compliance with the requirements of ATCO.C.040(b) and (c) is ensured.

GM1 ATCO.C.020(b) Validity of on-the-job training instructor endorsement

REVALIDATION

(a) Successful completion of the refresher training in practical instructional skills may be verified by several means, for example by:

(1) dedicated or continuous assessment;

(2) peer assessment; or

(3) demonstration of the practical instructional skills.

(b) The verification should be undertaken following the completion of the refresher training.

ATCO.C.025 Temporary OJTI authorisation

(a) When compliance with the requirements provided for in ATCO.C.010(b)(2) is not possible, the competent authority may grant temporary OJTI authorisation based on a safety analysis presented by the air navigation service provider.

(b) The temporary OJTI authorisation referred to in point (a) may be issued to holders of a valid OJTI endorsement issued in accordance with ATCO.C.015.

(c) The temporary OJTI authorisation referred to in point (a) shall be limited to the instruction necessary to cover exceptional situations and its validity shall not exceed one year or the expiration of the validity of the OJTI endorsement issued in accordance with ATCO.C.015, whichever occurs sooner.

AMC1 ATCO.C.025(a) Temporary OJTI authorisation

SAFETY ANALYSIS

The safety analysis should specify the reasons for which the relevant unit endorsement requirement provided for in ATCO.C.010(b)(2) cannot be met and how the equivalent level of safety will be ensured by other means.

GM1 ATCO.C.025(a) Temporary OJTI authorisation

EXCEPTIONAL SITUATIONS

Exceptional situations for which it may be considered not to be possible to comply with ATCO.C.010(b)(2) for the purpose of the valid unit endorsement experience, and, therefore, a temporary OJTI authorisation may be granted, are the following:

(a) establishment of a new ATC unit or new sector for the air navigation service provider;

(b) the continuity of the existing service is endangered due to the non-availability of personnel as a consequence of a change in the air navigation service provider at the ATC unit;

(c) new rating or rating endorsement put into operation at an ATC unit;

(d) reopening of a temporary ATC unit.

ATCO.C.030 Synthetic training device instructor (STDI) privileges

(a) Holders of an STDI endorsement are authorised to provide practical training on synthetic training devices:

(1) for subjects of practical nature during initial training;

(2) for unit training other than OJT; and

(3) for continuation training.

Where the STDI is providing pre-OJT, he/she shall hold or have held the relevant unit endorsement.

(b) Holders of an STDI endorsement shall only exercise the privileges of the endorsement if they have:

(1) at least two years' experience in the rating they will instruct in;

(2) demonstrated knowledge of current operational practices;

(3) practised instructional techniques in those procedures in which it is intended to provide instruction.

(c) Notwithstanding point (b)(1)

(1) for the purpose of basic training any rating held is appropriate;

(2) for the purpose of rating training, training may be provided for specific and selected operational tasks by an STDI holding a rating that is relevant for that specific and selected operational task.

GM1 ATCO.C.030(a)(1) Synthetic training device instructor (STDI) privileges

SUBJECTS OF PRACTICAL NATURE

Subjects with objectives at taxonomy level 3 or higher, related to Air Traffic Management Basic (ATMB), are considered of practical nature during initial training.

GM1 ATCO.C.030(c)(2) Synthetic training device instructor (STDI) privileges

PROVISION OF TRAINING FOR SPECIFIC AND SELECTED OPERATIONAL TASKS

Some of the skills required for the two different aerodrome control ratings, for the two different procedural ratings, as well as for the two different surveillance ratings are the same or similar. Therefore, instruction not being specific for one rating or the training being for specific and selected operational tasks that do not require the learner to practise all of the tasks which are normally associated with a fully operational environment, may be provided by an STDI, having experience of at least two years in a rating that requires similar skills.

ATCO.C.035 Application for synthetic training device instructor endorsement

Applicants for the issue of an STDI endorsement shall:

(a) have exercised the privileges of an air traffic controller licence in any rating for at least two years; and

(b) within the year preceding the application have successfully completed a practical instructional techniques course during which the required knowledge and pedagogical skills are taught using theoretical and practical methods and have been appropriately assessed.

ATCO.C.040 Validity of synthetic training device instructor endorsement

(a) The STDI endorsement shall be valid for a period of three years.

(b) The STDI endorsement may be revalidated by successfully completing refresher training on practical instructional skills and on current operational practices during its validity period.

(c) If the STDI endorsement has expired, it may be renewed by:

(1) receiving refresher training on practical instructional skills and on current operational practices; and

(2) successfully passing a practical instructor competence assessment;

within the year preceding the application for renewal.

(d) In the case of first issue and renewal the period of validity of the STDI endorsement shall start not later than 30 days from the date on which the assessment has been successfully completed.

GM1 ATCO.C.040(b) Validity of synthetic training device instructor endorsement

REVALIDATION

(a) Successful completion of the refresher training in practical instructional skills and current operational practices may be verified by several means, for example by:

(1) dedicated or continuous assessment;

(2) peer assessment; or

(3) demonstration of practical instructional skills.

(b) Current operational practices may be refreshed by transitional and pre-on-the-job training.

(c) The verification should be undertaken following the completion of the refresher training.

SECTION 2
ASSESSORS

ATCO.C.045 Assessor privileges

(a) A person shall only carry out assessments when he/she holds an assessor endorsement.

(b) Holders of an assessor endorsement are authorised to carry out assessments:

(1) during initial training for the issue of a student air traffic controller licence or for the issue of a new rating and/or rating endorsement, if applicable;

(2) of previous competence for the purpose of ATCO.B.001(d) and ATCO.B.010(b);

(3) of student air traffic controllers for the issue of a unit endorsement and rating endorsements, if applicable;

(4) of air traffic controllers for the issue of a unit endorsement and rating endorsements, if applicable, as well as for revalidation and renewal of a unit endorsement;

(5) of applicant practical instructors or applicant assessors when compliance with the requirements of point (d)(2) to (4) is ensured.

(c) Holders of an assessor endorsement shall only exercise the privileges of the endorsement if they have:

(1) at least two years' experience in the rating and rating endorsement(s) they will assess in; and

(2) demonstrated knowledge of current operational practices.

(d) In addition to the requirements set out in point (c), holders of an assessor endorsement shall only exercise the privileges of the endorsement:

(1) for assessments leading to the issue, revalidation and renewal of a unit endorsement, if they also hold the unit endorsement associated with the assessment for an immediately preceding period of at least one year;

(2) for assessing the competence of an applicant for the issue or renewal of an STDI endorsement, if they hold an STDI or OJTI endorsement and have exercised the privileges of that endorsement for at least three years;

(3) for assessing the competence of an applicant for the issue or renewal of an OJTI endorsement, if they hold an OJTI endorsement and have exercised the privileges of that endorsement for at least three years;

(4) for assessing the competence of an applicant for the issue or renewal of an assessor endorsement, if they have exercised the privileges of the assessor endorsement for at least three years.

(e) When assessing for the purpose of issue and renewal of a unit endorsement, and for ensuring supervision on the operational working position, the assessor shall also hold an OJTI endorsement, or an OJTI holding the valid unit endorsement associated with the assessment shall be present.

AMC1 ATCO.C.045(c)(2) Assessor privileges

DEMONSTRATION OF KNOWLEDGE OF CURRENT OPERATIONAL PRACTICES

The demonstration of knowledge of current operational practices may be achieved by establishing familiarity with current environment and operational procedures.

ATCO.C.050 Vested interests

Assessors shall not conduct assessments whenever their objectivity may be affected.

ATCO.C.055 Application for assessor endorsement

Applicants for the issue of an assessor endorsement shall:

(a) have exercised the privileges of an air traffic controller licence for at least two years; and

(b) within the year preceding the application have successfully completed an assessor course during which the required knowledge and skills are taught using theoretical and practical methods, and have been appropriately assessed.

ATCO.C.060 Validity of assessor endorsement

(a) The assessor endorsement shall be valid for a period of three years.

(b) The assessor endorsement may be revalidated by successfully completing refresher training on assessment skills and on current operational practices during its validity period.

(c) If the assessor endorsement has expired, it may be renewed by:

(1) receiving refresher training on assessment skills and on current operational practices; and

(2) successfully passing an assessor competence assessment;

within the year preceding the application for renewal.

(d) In the case of first issue and renewal the period of validity of the assessor endorsement shall start not later than 30 days from the date on which the assessment has been successfully completed.

GM1 ATCO.C.060(b) Validity of assessor endorsement

REVALIDATION

(a) Successful completion of the refresher training in assessment skills and current operational practices may be verified by several means, for example by:

(1) dedicated or continuous assessment;

(2) peer assessment; or

(3) demonstration of the practical instructional skills.

(b) Current operational practices may be refreshed by transitional and pre-on-the-job training.

(c) The verification should be undertaken following the completion of the refresher training.

ATCO.C.065 Temporary assessor authorisation

(a) When the requirement provided for in ATCO.C.045 (d)(1) cannot be met, the competent authority may authorise holders of an assessor endorsement issued in accordance with ATCO.C.055 to carry out assessments referred to in ATCO.C.045(b)(3) and (4) to cover exceptional situations or to ensure the independence of the assessment, provided that the requirements set out in points (b) and (c) are met.

(b) For the purpose of covering exceptional situations the holder of the assessor endorsement shall also hold a unit endorsement with the associated rating and, if applicable, rating endorsement, relevant to the assessment for an immediately preceding period of at least one year. The

authorisation shall be limited to the assessments necessary to cover exceptional situations and shall not exceed one year or the validity of the assessor endorsement issued in accordance with ATCO.C.055, whichever occurs sooner.

(c) For the purpose of ensuring the independence of the assessment for reasons of recurrent nature the holder of the assessor endorsement shall also hold a unit endorsement with the associated rating and, if applicable, rating endorsement, relevant to the assessment for an immediately preceding period of at least one year. The validity of the authorisation shall be determined by the competent authority but shall not exceed the validity of the assessor endorsement issued in accordance with ATCO.C.055.

(d) For issuing a temporary assessor authorisation for the reasons referred to in points (b) and (c) the competent authority may require a safety analysis to be presented by the air navigation service provider.

GM1 ATCO.C.065(b) Temporary assessor authorisation

EXCEPTIONAL SITUATIONS

Exceptional situations for which it may be considered not to be possible to comply with ATCO.C.045(d)(1) for the purpose of the unit endorsement experience, and, therefore, a temporary assessor authorisation may be granted, are the following:

(a) establishment of a new ATC unit or new sector for the air navigation service provider;

(b) the continuity of the existing service is endangered due to the non-availability of personnel as a consequence of a change in the air navigation service provider at the ATC unit;

(c) new rating or rating endorsement put into operation at an ATC unit;

(d) reopening of a temporary ATC unit.

GM1 ATCO.C.065(c) Temporary assessor authorisation

INDEPENDENCE OF THE ASSESSMENT

In the case of units not having sufficient number of assessors or if the independence and objectivity of the assessment from the training process is otherwise endangered, a temporary assessor authorisation may be granted.

AMC1 ATCO.C.065(d) Temporary assessor authorisation

SAFETY ANALYSIS

The safety analysis should specify the reasons for which the relevant unit endorsement requirement provided for in ATCO.C.045(d)(1) cannot be met and how the equivalent level of safety will be ensured by other means.

For the purpose of ensuring the independence of the assessment for reasons of recurrent nature, the safety analysis performed could encompass the recurrent nature of the need to ensure the independence of the assessments from the training process and provide a basis for the issue of multiple temporary authorisations based on the same reason.

SUBPART D — AIR TRAFFIC CONTROLLER TRAINING

SECTION 1
GENERAL REQUIREMENTS

ATCO.D.001 Objectives of air traffic controller training

Air traffic controller training shall cover the entirety of theoretical courses, practical exercises, including simulation, and on-the-job training required in order to acquire and maintain the skills to deliver safe, orderly and expeditious air traffic control services.

ATCO.D.005 Types of air traffic controller training

(a) Air traffic controller training shall consist of the following types:

(1) initial training, leading to the issue of a student air traffic controller licence or to the issue of an additional rating and, if applicable, rating endorsement, providing:

(i)	'basic training'	:	theoretical and practical training designed to impart fundamental knowledge and practical skills related to basic operational procedures;
(ii)	'rating training'	:	theoretical and practical training designed to impart knowledge and practical skills related to a specific rating and, if applicable, to rating endorsement;

(2) unit training, leading to the issue of an air traffic controller licence, the issue of a rating endorsement, the validation of rating(s) or rating endorsement(s) and/or the issue or renewal of a unit endorsement. It comprises the following phases:

(i) transitional training phase, designed primarily to impart knowledge and understanding of site-specific operational procedures and task-specific aspects; and

(ii) on-the-job training phase, which is the final phase of unit training during which previously acquired job-related routines and skills are integrated in practice under the supervision of a qualified on-the-job training instructor in a live traffic situation.

(iii) In addition to points (i) and (ii), for unit endorsement(s) that require the handling of complex and dense traffic situations, a pre-on-the-job training phase is required to enhance the previously acquired rating routines and skills and to prepare for live traffic situations which may be encountered in that unit;

(3) continuation training, designed to maintain the validity of the endorsements of the licence, consisting of:

(i) refresher training;

(ii) conversion training, when relevant.

(b) In addition to the types of training referred to in point (a), air traffic controllers may undertake the following types:

(1) practical instructors' training, leading to the issue, revalidation or renewal of an OJTI or STDI endorsement;

(2) assessor training, leading to the issue, revalidation or renewal of an assessor endorsement.

AMC1 ATCO.D.005(a)(2) Types of air traffic controller training

UNIT TRAINING

Unit training should be undertaken by holders of student air traffic controllers licence or holders of air traffic controllers licence, as appropriate, for:

(a) the issue of an air traffic controller licence with a unit endorsement;

(b) the addition of a unit endorsement in an air traffic controller licence;

(c) the validation of a rating and rating endorsement, if applicable, in an existing licence;

(d) the addition of rating endorsement in an existing licence; and

(e) the renewal of an expired, suspended or revoked unit endorsement, where applicable.

GM1 ATCO.D.005(a)(2)(ii) Types of air traffic controller training

ON-THE-JOB TRAINING

(a) On-the-job training may be supplemented for pedagogical reasons by theoretical instructions and computer-based training, part-task trainers or any type of simulators aiming at increasing knowledge, understanding and application of local procedures.

(b) Hours accumulated using these training tools and methods during this phase cannot be counted towards the minimum duration of on-the-job training established in accordance with AMC1 ATCO.D.055(b)(6), with the exception of training for procedures unlikely to be encountered in the operational environment during the training.

SECTION 2
INITIAL TRAINING REQUIREMENTS

ATCO.D.010 Composition of initial training

(a) Initial training, intended for an applicant for a student air traffic controller licence or for the issue of an additional rating and/or, if applicable, rating endorsement, shall consist of:

(1) basic training, comprising all the subjects, topics and subtopics contained in Appendix 2 of Annex I; and

(2) rating training, comprising the subjects, topics and subtopics of at least one of the following:

(i) Aerodrome Control Visual Rating — ADV, defined in Appendix 3 of Annex I;

(ii) Aerodrome Control Instrument Rating for Tower — ADI (TWR), defined in Appendix 4 of Annex I;

(iii) Approach Control Procedural Rating — APP, defined in Appendix 5 of Annex I;

(iv) Area Control Procedural Rating — ACP, defined in Appendix 6 of Annex I;

(v) Approach Control Surveillance Rating — APS, defined in Appendix 7 of Annex I;

(vi) Area Control Surveillance Rating — ACS, defined in Appendix 8 of Annex I.

(b) Training intended for an additional rating shall consist of the subjects, topics and subtopics applicable to at least one of the ratings established in point (a)(2).

(c) Training intended for the reactivation of a rating following a not successful assessment of previous competence according to ATCO.B.010(b) shall be tailored according to the result of that assessment.

(d) Training intended for a rating endorsement other than ATCO.B.015(a)(3) shall consist of subjects, topics and subtopics developed by the training organisation and approved as part of the training course.

(e) Basic and/or rating training may be complemented with subjects, topics and subtopics that are additional or specific to the Functional Airspace Block (FAB) or to the national environment.

AMC1 ATCO.D.010(a) Composition of initial training

GENERAL

[Please find the link to the concerned AMC here]

AMC2 ATCO.D.010(a) Composition of initial training

LIST OF ACRONYMS/INITIALISMS

[Please find the link to the concerned AMC here]

AMC2 ATCO.D.010(a)(1) Composition of initial training

BASIC TRAINING — SUBJECT OBJECTIVES AND TRAINING OBJECTIVES

[Please find the link to the concerned AMC here]

AMC1 ATCO.D.010(a)(2)(i) Composition of initial training

AERODROME CONTROL VISUAL RATING (ADV) TRAINING — SUBJECT OBJECTIVES AND TRAINING OBJECTIVES

[Please find the link to the concerned AMC here]

AMC1 ATCO.D.010(a)(2)(ii) Composition of initial training

AERODROME CONTROL INSTRUMENT RATING FOR TOWER ADI (TWR) TRAINING — SUBJECT OBJECTIVES AND TRAINING OBJECTIVES

[Please find the link to the concerned AMC here]

AMC1 ATCO.D.010(a)(2)(iii) Composition of initial training

APPROACH CONTROL PROCEDURAL RATING (APP) TRAINING — SUBJECT OBJECTIVES AND TRAINING OBJECTIVES

[Please find the link to the concerned AMC here]

AMC1 ATCO.D.010(a)(2)(iv) Composition of initial training

AREA CONTROL PROCEDURAL RATING (ACP) TRAINING — SUBJECT OBJECTIVES AND TRAINING OBJECTIVES

[Please find the link to the concerned AMC here]

AMC1 ATCO.D.010(a)(2)(v) Composition of initial training

APPROACH CONTROL SURVEILLANCE RATING (APS) TRAINING — SUBJECT OBJECTIVES AND TRAINING OBJECTIVES

[Please find the link to the concerned AMC here]

AMC1 ATCO.D.010(a)(2)(vi) Composition of initial training

AREA CONTROL SURVEILLANCE RATING (ACS) TRAINING — SUBJECT OBJECTIVES AND TRAINING OBJECTIVES

[Please find the link to the concerned AMC here]

GM1 ATCO.D.010 Composition of initial training

GENERAL

(a) Initial training consists of basic training which is common to all applicants and rating training of which there are six different rating syllabi.

(b) Rating training may be commenced before the completion of the basic training.

(c) If an applicant already holds a student air traffic controller licence or an air traffic controller licence, and there is a requirement for training to achieve an additional rating (and, if relevant, rating endorsement), the applicant should not repeat the basic training objectives; however, there is a requirement to achieve the objectives contained within the relevant rating training plus any additional objectives specific to the local or national environment.

ATCO.D.015 Initial training plan

An initial training plan shall be established by the training organisation and approved by the competent authority. It shall contain at least:

(a) the composition of the initial training course provided according to ATCO.D.010;

(b) the structure of the initial training provided according to ATCO.D.020(b);

(c) the process for the conduct of the initial training course(s);

(d) the training methods;

(e) minimum and maximum duration of the initial training course(s);

(f) with regard to ATCO.D.010(b), process for adapting the initial training course(s) to take due account of a successfully completed basic training course;

(g) processes for examinations and assessments according to ATCO.D.025 and ATCO.D.035, as well as performance objectives according to ATCO.D.030 and ATCO.D.040;

(h) training personnel qualifications, roles and responsibilities;

(i) process for early termination of training;

(j) the appeal process;

(k) identification of records to be kept specific to initial training;

(l) process and reasons for reviewing and amending the initial training plan and its submission to the competent authority. The review of the initial training plan shall take place at least once every three years.

ATCO.D.020 Basic and rating training courses

(a) Basic and rating training shall be provided as separate or integrated courses.

(b) Basic and rating training courses or an integrated initial training course shall be developed and provided by training organisations and approved by the competent authority.

(c) When initial training is provided as an integrated course, a clear distinction shall be made between the examinations and assessments for:

(1) basic training; and

(2) each rating training.

(d) The successful completion of initial training, or of rating training for the issue of an additional rating, shall be demonstrated by a certificate issued by the training organisation.

(e) The successful completion of basic training shall be demonstrated by a certificate issued by the training organisation upon request of the applicant.

GM1 ATCO.D.020(d) Basic and rating training courses

CERTIFICATE OF COMPLETION OF INITIAL TRAINING

The certificate of completion may take any form and title and may cover multiple candidates.

ATCO.D.025 Basic training examinations and assessment

(a) Basic training courses shall include theoretical examination(s) and assessment(s).

(b) A pass in theoretical examination(s) shall be awarded to an applicant achieving a minimum of 75 % of the marks allocated to that examination.

(c) Assessment(s) of performance objectives as listed in ATCO.D.030 shall be conducted on a part-task trainer or a simulator.

(d) A pass in assessment(s) shall be awarded to an applicant who consistently demonstrates the required performance as listed in ATCO.D.030 and shows the behaviour required for safe operations within the air traffic control service.

ATCO.D.030 Basic training performance objectives

Assessment(s) shall include evaluation of the following performance objectives:

(a) checking and using the working position equipment;

(b) developing and maintaining situational awareness by monitoring traffic and identifying aircraft when applicable;

(c) monitoring and updating flight data display(s);

(d) maintaining a continuous listening watch on the appropriate frequency;

(e) issuing appropriate clearances, instructions and information to traffic;

(f) using approved phraseology;

(g) communicating effectively;

(h) applying separation;

(i) applying coordination as necessary;

(j) applying the prescribed procedures for the simulated airspace;

(k) detecting potential conflicts between aircraft;

(l) appreciating priority of actions;

(m) choosing appropriate separation methods.

ATCO.D.035 Rating training examinations and assessment

(a) Rating training courses shall include theoretical examination(s) and assessment(s).

(b) A pass in theoretical examination(s) shall be awarded to an applicant achieving a minimum of 75 % of the marks allocated to that examination.

(c) Assessment(s) shall be based on the rating training performance objectives described in ATCO.D.040.

(d) Assessment(s) shall be conducted on a simulator.

(e) A pass in assessment(s) shall be awarded to an applicant who consistently demonstrates the required performance described in ATCO.D.040 and shows the behaviour required for safe operations within the air traffic control service.

ATCO.D.040 Rating training performance objectives

(a) Rating training performance objectives and performance objective tasks shall be defined for each rating training course.

(b) Rating training performance objectives shall require an applicant to:

(1) demonstrate the ability to manage air traffic in a manner that ensures safe, orderly and expeditious services; and

(2) handle complex and dense traffic situations.

(c) In addition to point (b), rating training performance objectives for the Aerodrome Control Visual (ADV) and Aerodrome Control Instrument (ADI) rating shall ensure that applicants:

(1) manage the workload and provide air traffic services within a defined aerodrome area of responsibility; and

(2) apply aerodrome control techniques and operational procedures to aerodrome traffic.

(d) In addition to point (b), rating training performance objectives for the Approach Control Procedural rating shall ensure that applicants:

(1) manage the workload and provide air traffic services within a defined approach control area of responsibility; and

(2) apply procedural approach control, planning techniques and operational procedures to arriving, holding, departing and transiting traffic.

(e) In addition to point (b), rating training performance objectives for the Approach Control Surveillance rating shall ensure that applicants:

(1) manage the workload and provide air traffic services within a defined approach control area of responsibility; and

(2) apply approach surveillance control, planning techniques and operational procedures to arriving, holding, departing and transiting traffic.

(f) In addition to point (b), rating training performance objectives for the Area Control Procedural rating shall ensure that applicants:

(1) manage the workload and provide air traffic services within a defined area control area of responsibility; and

(2) apply procedural area control, planning techniques and operational procedures to area traffic.

(g) In addition to point (b), rating training performance objectives for the Area Control Surveillance rating shall ensure that applicants:

(1) manage the workload and provide air traffic services within a defined area control area of responsibility; and

(2) apply area surveillance control, planning techniques and operational procedures to area traffic.

AMC1 ATCO.D.040 Rating training performance objectives

GENERAL

Training organisations should define the detailed performance objectives for each rating training course, as well as the training scenario.

GM1 ATCO.D.040 Rating training performance objectives

GENERAL

A list of performance objectives tasks can be found in EUROCONTROL's document 'ATCO Rating Training Performance Objectives', Edition 1.0, dated 14.12.2010.

SECTION 3
UNIT TRAINING REQUIREMENTS

ATCO.D.045 Composition of unit training

(a) Unit training shall consist of training course(s) for each unit endorsement established at the ATC unit as defined in the unit training plan.

(b) The unit endorsement course(s) shall be developed and provided by training organisations according to ATCO.D.060 and approved by the competent authority.

(c) Unit training shall include training in:

(1) operational procedures;

(2) task-specific aspects;

(3) abnormal and emergency situations; and

(4) human factors.

GM1 ATCO.D.045(a) Composition of unit training

If an applicant undertakes unit endorsement training, and there is a requirement for training to achieve an additional unit endorsement, the applicant should not repeat the training objectives covered in the first unit endorsement training; however, the objectives of the additional unit endorsement course(s) should be achieved.

AMC1 ATCO.D.045(c)(3) Composition of unit training

ABNORMAL AND EMERGENCY SITUATIONS

(a) Training for all identified abnormal and emergency situations should primarily take place on synthetic training devices.

(b) Training organisations should develop performance objectives for the abnormal and emergency situation training.

(c) Where a low safety risk for the ATC service provision has been identified and agreed by the competent authority, training in abnormal and emergency situations may take place by means other than synthetic training devices.

(d) If the pre-on-the-job training phase is not provided, the abnormal and emergency situation training should be scenario-based and as realistic as possible while maintaining operational safety.

(e) Checklists for abnormal and emergency situations used in operations should be made available to the applicant and be available at all times during scenario training.

AMC1 ATCO.D.045(c)(4) Composition of unit training

HUMAN FACTORS

(a) Training organisations should train the applicant during on-the-job training in team resource management, fatigue management and stress management.

(b) Training organisations should develop performance objectives for team resource management training.

(c) The team resource management training may also make use of synthetic training devices.

(d) Training organisations should develop training objectives for fatigue management and stress management training.

ATCO.D.050 Prerequisites of unit training

Unit training may only be started by persons who are holders of:

(a) a student air traffic controller licence with the appropriate rating and, if applicable, rating endorsement; or

(b) an air traffic controller licence with the appropriate rating and, if applicable, rating endorsement;

provided that the requirements set out in ATCO.B.001(d) and ATCO.B.010(b) are met.

ATCO.D.055 Unit training plan

(a) A unit training plan shall be established by the training organisation for each ATC unit and shall be approved by the competent authority.

(b) The unit training plan shall contain at least:

(1) ratings and endorsements for which the training is conducted;

(2) the structure of the unit training;

(3) the list of unit endorsement course(s) according to ATCO.D.060;

(4) the process for the conduct of a unit endorsement course;

(5) the training methods;

(6) the minimum duration of the unit endorsement course(s);

(7) process for adapting the unit endorsement course(s) to take due account of the acquired ratings and/or rating endorsements and experience of applicants, when relevant;

(8) processes for demonstrating theoretical knowledge and understanding according to ATCO.D.065, including the number, frequency and type of, as well as pass marks for examinations, which shall be a minimum of 75 % of the marks allocated to these examinations;

(9) processes for the assessment according to ATCO.D.070, including the number and frequency of assessments;

(10) training personnel qualifications, roles and responsibilities;

(11) process for early termination of training;

(12) the appeal process;

(13) identification of records to be kept specific to the unit training;

(14) a list of identified abnormal and emergency situations specific for each unit endorsement;

(15) process and reasons for reviewing and amending the unit training plan and its submission to the competent authority. The review of the unit training plan shall take place at least once every three years.

GM1 ATCO.D.055 Unit training plan

GENERAL

Guidance for the development of unit training plans can be found in EUROCONTROL's documents 'Guidelines for the Development of Unit Training Plans', Edition number 1.0, dated 31.08.2005 and 'Annex to the Guidelines for the Development of Unit Training Plans: Examples of UTP', Edition 2.0, dated 10.06.2010.

GM1 ATCO.D.055(a) Unit training plan

ATC UNIT FOR AERODROME CONTROL FROM A REMOTE TOWER

For the purpose of establishing a unit training plan, a Remote Tower Centre (RTC) may be considered as one Air Traffic Control (ATC) unit.

GM1 ATCO.D.055(b)(5) Unit training plan

TRAINING METHODS

Training organisations should consider a variety of methods when conducting training leading to a unit endorsement. Although this list is not exhaustive, such methods could be:

— on-the-job;

— lecture;

— lesson/demonstration;

— case study;

— computer-based practical exercise;

— exercise;

— facilitation;

— group work;

— hands-on;

— interactive training;

— supervised practices;

— part-task practice;

— individual simulation;

— team simulation;

— group simulation;

— briefing/debriefing;

— structured briefing;

— structured debriefing;

— virtual classroom;

— role play;

— skill acquisition;

— self-study;

— self-test;

— resilience training.

AMC1 ATCO.D.055(b)(6) Unit training plan

DURATION OF UNIT ENDORSEMENT COURSES

(a) The on-the-job training instruction as part of the unit endorsement course should be at least of the duration specified in Annex 1 to the Chicago Convention, Section 4.5.2.2.1(b).

(b) The ratings named in Annex 1 to the Chicago Convention, Section 4.5.2.2.1(b), should be read in the context of this Regulation:

(1) aerodrome control rating: ADV and ADI ratings;

(2) approach control procedural rating: APP rating;

(3) approach control surveillance rating: APS rating;

(4) area control procedural rating: ACP rating;

(5) area control surveillance rating: ACS rating.

(c) The approach precision radar control rating in Annex 1 to the Chicago Convention, Section 4.5.2.2.1(b), should be read in the context of this Regulation as APS-PAR rating endorsement according to ATCO.B.015.

AMC1 ATCO.D.055(b)(14) Unit training plan

DESIRABLE BEHAVIOURS FOR ABNORMAL AND EMERGENCY SITUATIONS

(a) Training organisations should establish desirable behaviours for the identified abnormal and emergency situations and associate them with established procedures.

(b) Desirable behaviours of the applicants in case of abnormal or emergency situations may be of technical or non-technical nature.

ATCO.D.060 Unit endorsement course

(a) A unit endorsement course shall be the combination of the relevant unit training phases for the issue or renewal of a unit endorsement in the licence. Each course shall contain:

(1) a transitional training phase;

(2) an on-the-job training phase.

A pre-on-the-job training phase shall be included, if required, according to ATCO.D.005(a)(2).

(b) The unit training phases referred to in paragraph (a) shall be provided separately or in an integrated manner.

(c) Unit endorsement courses shall define the syllabus and the performance objectives in accordance with ATCO.D.045(c) and shall be conducted in accordance with the unit training plan.

(d) Unit endorsement courses that include training for rating endorsement(s) according to ATCO.B.015 shall be supplemented with additional training that allows for the acquisition of the concerned rating endorsement skills.

(e) Training intended for a rating endorsement other than ATCO.B.015(a)(3) shall consist of subjects, subject objectives, topics and subtopics developed by the training organisation and approved as part of the training course.

(f) Unit endorsement courses undertaken following an exchange of a licence shall be adapted to include elements of initial training that are specific to the Functional Airspace Block or to the national environment.

GM1 ATCO.D.060(c) Unit endorsement course

PERFORMANCE OBJECTIVES FOR AIR TRAFFIC CONTROLLERS PROVIDING SERVICES TO AIRCRAFT CARRYING OUT FLIGHT TESTS

The performance objectives for air traffic controllers providing air traffic control services to aircraft carrying out flight tests should ensure that applicants manage the workload and provide air traffic services and apply specific ATC procedures to aircraft carrying out flight tests within a defined aerodrome, approach control and/or area control area of responsibility.

GM2 ATCO.D.060(c) Unit endorsement course

ADDITIONAL TRAINING FOR AIR TRAFFIC CONTROLLERS PROVIDING SERVICES TO AIRCRAFT CARRYING OUT FLIGHT TESTS

In accordance with ATCO.B.020(d), the unit endorsement course for air traffic controllers providing air traffic control services to aircraft carrying out flight tests may include the following subjects, subject objectives, topics and subtopics:

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 INTRO 1 — COURSE MANAGEMENT

Subtopic INTRO 1.1 — Course introduction

Subtopic INTRO 1.2 — Course administration

Subtopic INTRO 1.3 — Study material and training documentation

TOPIC INTRO 2 — INTRODUCTION TO THE ATC TRAINING COURSE

Subtopic INTR 2.1 — Course content and organisation

Subtopic INTR 2.2 — Training ethos

Subtopic INTR 2.3 — Assessment process

Subject 2: SCOPE OF FLIGHT TESTING

The subject objective is:

Learners shall understand the purpose of flight testing and integrate airworthiness issues in the provision of ATS to flight tests.

TOPIC FT 1 — AIRWORTHINESS REQUIREMENTS

Subtopic FT 1.1 — Airworthiness codes

Subtopic FT 1.2 — Flight test guide for CS aircrafts

Subtopic FT 1.3 — Prototypes and concept aircrafts

TOPIC FT 2 TEST AND ACCEPTANCE TRAFFIC ASPECTS

Subtopic FT 2.1 — Performance flight testing methods

Subtopic FT 2.2 — Handling qualities testing methods

Subtopic FT 2.3 — Systems, CNS and on-board safety systems testing methods

Subject 3: REGULATIONS AND EXEMPTIONS

The subject objective is:

Learners shall know, understand and apply the rules of the air and ATM regulations, and the principles of exemptions regarding the needs of flight test, and also take into account licensing and competence principles.

TOPIC REG 1 — ATC LICENSING/CERTIFICATE OF COMPETENCE

Subtopic REG 1.1 — Privileges and conditions

TOPIC REG 2 — EXEMPTIONS REGARDING ATM REGULATIONS

Subtopic REG 2.1 — ICAO annexes and rules of the air

Subtopic REG 2.2 — ATM regulations regarding airspace

Subtopic REG 2.3 — Airworthiness

Subtopic REG 2.4 — Flight test exemptions

Subject 4: AIRCRAFT ENVIRONMENT

The subject objective is:

Learners shall know the theory of flight, aircraft subsystems and integrate aircraft performances, limitations and handling qualities in the provision of ATS to flight tests.

TOPIC ACFT 1 — AIRCRAFT FLIGHT DYNAMICS

Subtopic ACFT 1.1 — Aircraft control and movement

Subtopic ACFT 1.2 — Performance testing

Subtopic ACFT 1.3 — Handling qualities

Subtopic ACFT 1.4 — Aero-elastic/Flutter stability

Subtopic ACFT 1.5 — Flight envelope

Subtopic ACFT 1.6 — Helicopter specific dynamics

TOPIC ACFT 2 — AIRCRAFT ENGINES

Subtopic ACFT 2.1 — The piston engine

Subtopic ACFT 2.2 — The turboshaft engine

Subtopic ACFT 2.3 — Jet and turbofan

TOPIC ACFT 3 — AIRCRAFT SYSTEMS

Subtopic ACFT 3.1 — Flight control systems

Subtopic ACFT 3.2 — Safety systems

Subtopic ACFT 3.3 — Communication and navigation systems

Subject 5: FLIGHT TESTING AIR TRAFFIC MANAGEMENT

The subject objective is:

Learners shall manage air traffic in complete safety, with methods to ensure a satisfactory rate of success regarding flight testing.

TOPIC FTATM 1 — AIR TRAFFIC SERVICES AND AIRSPACE MANAGEMENT

Subtopic FTATM 1.1 — Air traffic control (ATC) service

Subtopic FTATM 1.2 — Flight information service (FIS)

Subtopic FTATM 1.3 — Alerting service

TOPIC FTATM 2 — EXEMPTIONS DUE TO TESTING DEMONSTRATIONS

Subtopic FTATM 2.1 — Demonstration of compliance with airworthiness regulations

Subtopic FTATM 2.2 — Flight test for evaluation of an aircraft

Subtopic FTATM 2.3 — Flight test for evaluation of an aircraft subsystem

TOPIC FTATM 3 — FLIGHT TEST METHODS IN AERODROME CONTROL AREA

Subtopic FTATM 3.1 — Velocity of minimum control on ground

Subtopic FTATM 3.2 — Velocity of minimum unstick

Subtopic FTATM 3.3 — Lapse rate take-off

Subtopic FTATM 3.4 — Rejected take-off

Subtopic FTATM 3.5 — Tower fly-by method

Subtopic FTATM 3.6 — Hover manoeuvre methods

Subtopic FTATM 3.7 — Landing performances testing methods

Subtopic FTATM 3.8 — Other flight testing manoeuvres

TOPIC FTATM 4 — FLIGHT TEST METHODS IN APPROACH CONTROL AREA AND IN AREA CONTROL

Subtopic FTATM 4.1 — Velocity of minimum control in the air/Stalls

Subtopic FTATM 4.2 — Tuning of flight controls protections

Subtopic FTATM 4.3 — Autopilot tuning

Subtopic FTATM 4.4 — Wind milling/RAM air turbine/Engine relights

Subtopic FTATM 4.5 — Trailing pitot static method

Subtopic FTATM 4.6 — Lateral and longitudinal stability flights

Subtopic FTATM 4.7 — Flight in specific meteorological conditions

Subtopic FTATM 4.8 — Supersonic flights

Subtopic FTATM 4.9 — Other flight testing various manoeuvres

Subject 6: HUMAN FACTORS

The subject objective is:

Learners shall recognise the necessity to constantly consider the specific human factors influence on tests activity management.

TOPIC HUM 1 — CUSTOMERS RELATIONS AND ORGANISATION

Subtopic HUM 1.1 — Stress

Subtopic HUM 1.2 — Responsible behaviour

Subtopic HUM 1.3 — Violation of rules

TOPIC HUM 2 — FLIGHT TEST WORKING METHODS

Subtopic HUM 2.1 — Collaborative work within the same area of responsibility

Subtopic HUM 2.2 — Collaborative work between different areas of responsibility

Subtopic HUM 2.3 — FT-ATCO/CREW cooperation

Subtopic HUM 2.4 — Communication

TOPIC HUM 3 — FLIGHT TEST SAFETY CONSOLIDATION

Subtopic HUM 3.1 — Safety risk assessment

Subtopic HUM 3.2 — Experience feedback

Subtopic HUM 3.3 — Unusual/Degraded/Emergency situations

Subtopic HUM 3.4 — Safety Investigation Branch

Subject 7: METEOROLOGY

The subject objective is:

Learners shall acquire, decode and make proper use of meteorological information relevant to the airworthiness issues and the safe provision of ATS to flight tests.

TOPIC MTO 1 — METEOROLOGICAL AND AIRWORTHINESS CONCERNS

Subtopic MTO 1.1 — Airworthiness meteorological requirements

Subtopic MTO 1.2 — Demonstrator flights carrying specific test equipment

Subtopic MTO 1.3 — Phases with specific weather conditions (icing, wind, volcano, etc.)

GM3 ATCO.D.060(c) Unit endorsement course

PERFORMANCE OBJECTIVES FOR AIR TRAFFIC CONTROLLERS PROVIDING AERODROME CONTROL SERVICE FROM A REMOTE TOWER

The performance objectives for air traffic controllers providing aerodrome control service from a remote tower should ensure, through the use of a Remote Tower Module (RTM), that applicants apply ATC procedures in a manner that airspace users are not negatively impacted/affected, providing at least the same level of safety as from a conventional tower.

GM4 ATCO.D.060(c) Unit endorsement course

TRAINING FOR AIR TRAFFIC CONTROLLERS PROVIDING AERODROME CONTROL SERVICE FROM A REMOTE TOWER

For air traffic controllers providing aerodrome control service from a remote tower, the following subjects, subject objectives, topics and subtopics should be integrated into the unit endorsement course:

Subject 1: REMOTE TOWER OPERATION

The subject objective is:

Learners shall acquire knowledge of the concept of remote tower operations, the characteristics of the operating environment, as well as the functions and limitations of the equipment.

TOPIC RTO 1 INTRODUCTION TO REMOTE TOWER OPERATION

Subtopic RTO 1.1 — Operational applications

Subtopic RTO 1.2 — Remote Tower Modules (RTMs), Remote Tower Centre (RTC)

Subtopic RTO 1.3 — Advanced Visual Features (AVFs) — Technologies, if available, to enhance visual presentation

TOPIC RTO 2 OPERATING ENVIRONMENT

Subtopic RTO 2.1 — Configuration of the RTM

Subtopic RTO 2.2 — Visual presentation at the RTM, e.g. layout of the visual presentation, end-to-end delay, orientation, differences in light conditions between the aerodrome and the Out-The-Window (OTW) visual presentation, use of filters, recognition of ‘dead’ pixels

Subtopic RTO 2.3 — Operating methods

Subtopic RTO 2.4 — Set-up and characteristics of the local equipment, including the location of the cameras

Subtopic RTO 2.5 — Familiarisation with the physical aerodrome environment and the different stakeholders via study visit(s)

Subtopic RTO 2.6 — Weather conditions’ impact on the equipment and on the visual presentation

Subject 2: HUMAN FACTORS

The subject objective is:

Learners shall appreciate the necessity to consider the specific human factors influence on the remote provision of aerodrome control service.

Subject 3: ABNORMAL SITUATIONS

The subject objective is:

Learners shall recognise specific abnormal situations and manage their impact.

TOPIC ABN 1 LOSS OF VISUAL PRESENTATION

Subtopic ABN 1.1 — Complete loss of visual presentation, e.g. 'blank screens' or frozen presentation

Subtopic ABN 1.2 — Visual presentation not being current

TOPIC ABN 2 DEGRADED MODES OF VISUAL PRESENTATION

Subtopic ABN 2.1 — Partial loss of visual presentation (e.g. loss of a screen(s) or camera failure)

Subtopic ABN 2.2 — Loss or degradation of the labelling system, if available

Subtopic ABN 2.3 — Loss or degradation of the zooming functionality and signalling lamp

GM1 ATCO.D.060(d);(e) Unit endorsement course

TRAINING FOR RATING ENDORSEMENTS

Training for rating endorsement(s) as part of the unit endorsement course may be delegated to training organisations certified for initial training.

ATCO.D.065 Demonstration of theoretical knowledge and understanding

Theoretical knowledge and understanding shall be demonstrated by examinations.

GM1 ATCO.D.065 Demonstration of theoretical knowledge and understanding

METHODS OF EXAMINATION

(a) Oral examinations and/or written/computer-based examinations should be used to demonstrate the controller's knowledge and understanding.

(1) Oral examinations

The oral examination is used to test the understanding of applicable techniques and the rules governing them, particularly of unit and national air traffic control procedures. Scenario-type questioning allows examiners to gather additional evidence of how an applicant would react in circumstances that are not observable, but are nevertheless considered important to the overall operation at that ATC unit.

Oral examinations will give a clear indication that the persons undertaking training know not only what they should be doing, but why they should be doing it. The oral examination requires considerable skills and it should be undertaken in a way to ensure consistency among individual examiners.

(2) Written examinations

The written examination is used to test theoretical knowledge and to a lesser degree the understanding of applicable techniques and the rules governing them, particularly of unit and national air traffic control procedures. It is easier to administer and to ensure the consistency of written examinations particularly when using multiple-choice questioning. Although multiple-choice questioning can test knowledge, it is not appropriate for determining what a controller would do in a particular operational situation.

Written examinations can also be computer-based.

(b) The most comprehensive method of testing the understanding of the person undertaking training, contrary to their possession of pure knowledge, would be a combination of written examinations

that assess the knowledge of unit and national procedures, together with a separate oral examination which tests the understanding and reactions to operational situations.

ATCO.D.070 Assessments during unit endorsement courses

(a) The applicant's assessment shall be conducted in the operational environment under normal operational conditions at least once at the end of the on-the-job training.

(b) When the unit endorsement course contains a pre-on-the-job training phase, the applicant's skills shall be assessed on a synthetic training device at least at the end of this phase.

(c) Notwithstanding point (a), a synthetic training device may be used during a unit endorsement assessment to demonstrate the application of trained procedures not encountered in the operational environment during the assessment.

GM1 ATCO.D.070 Assessments during unit endorsement courses

(a) DEDICATED ASSESSMENTS

(1) A dedicated assessment should be carried out for the issue or renewal of a unit endorsement.

(2) A dedicated assessment may consist of a single assessment or a series of assessments, as detailed in the unit training plan.

(3) To conduct a dedicated assessment, the assessor(s) should sit with the applicant with the purpose of observing the quality and assessing the standard of work being carried out and, if also acting as OJTI at the same time, to maintain a safe, orderly and expeditious flow of air traffic.

(4) The applicant concerned should be briefed on the conduct of the assessment.

(5) For those situations where an applicant’s performance cannot be observed at the time of the assessment (e.g. low visibility operations, snow clearing, military activity, etc.), the assessment may be supplemented by synthetic training device sessions and oral examination.

(6) Dedicated assessments may also be conducted at any stage of training as detailed in the unit training plan, where a more definitive measure of the progress is required, for example after 50 hours of practical training.

(b) CONTINUOUS ASSESSMENT

(1) Continuous assessment may be performed by the assessor observing the standard of the air traffic control service provided by those whose competence he/she will certify as he/she works with them during unit training or normal operational duties.

(2) In cases where the assessors have not had sufficient contact with the applicant to adequately assess his/her performance, they will not certify the applicant’s competence until they have conducted a dedicated practical assessment. The applicant concerned must be advised that a dedicated practical assessment is to be conducted.

(c) ORAL EXAMINATION

(1) The oral examination is used to test the understanding of applicable techniques and the rules governing them, particularly of unit and national air traffic control procedures. Scenario-type questioning allows the examiners to gather additional evidence of how an applicant would react in circumstances that are not observable, but are nevertheless considered important to the overall operation at that ATC unit.

(2) The oral examination will give a clear indication that the applicant knows not only what he/she should be doing, but why he/she should be doing it. It requires considerable skills and it should be undertaken in a way to ensure consistency among individual examiners.

SECTION 4
CONTINUATION TRAINING REQUIREMENTS

ATCO.D.075 Continuation training

Continuation training shall consist of refresher and conversion training courses and shall be provided according to the requirements contained in the unit competence scheme according to ATCO.B.025.

ATCO.D.080 Refresher training

(a) Refresher training course(s) shall be developed and provided by training organisations and approved by the competent authority.

(b) Refresher training shall be designed to review, reinforce or enhance the existing knowledge and skills of air traffic controllers to provide a safe, orderly and expeditious flow of air traffic and shall contain at least:

(1) standard practices and procedures training, using approved phraseology and effective communication;

(2) abnormal and emergency situations training, using approved phraseology and effective communication; and

(3) human factors training.

(c) A syllabus for the refresher training course shall be defined, and where a subject refreshes skills of air traffic controllers, performance objectives shall also be developed.

AMC1 ATCO.D.080 Refresher training

EXAMINATIONS AND ASSESSMENTS

Refresher topics should be examined or assessed using the processes described in the unit competence scheme.

GM1 ATCO.D.080 Refresher training

REFRESHER TRAINING SUBJECTS

Topics for refresher training subjects may include rarely used procedures and practices, such as seasonally dependent procedures, trends and observations from occurrence reports and results of normal operations safety surveys.

GM2 ATCO.D.080 Refresher training

REFRESHER TRAINING STRUCTURE

Refresher training may be developed and structured in accordance with the established duration of the unit endorsement it refreshes. This may mean structuring the refresher training in modular fashion. For instance, training in standard practices and procedures, abnormal and emergency situations and human factors may be given separately or integrated into any other modules.

GM3 ATCO.D.080 Refresher training

GENERAL

Guidance for the development of refresher training courses can be found in EUROCONTROL's document 'ATC Refresher Training Manual', Edition 1.0., dated 06.03.2015.

GM1 ATCO.D.080(b) Refresher training

TRAINING FOR AIR TRAFFIC CONTROLLERS PROVIDING AERODROME CONTROL SERVICE FROM A REMOTE TOWER

For air traffic controllers providing aerodrome control service from a remote tower, the refresher training should include familiarisation with the physical aerodrome environment and the different stakeholders via study visit(s).

AMC1 ATCO.D.080(b)(1);(2) Refresher training

PHRASEOLOGY TRAINING

Training organisations should develop objectives for phraseology.

AMC2 ATCO.D.080(b)(2) Refresher training

ABNORMAL SITUATION AND EMERGENCY TRAINING

Abnormal situation and emergency training should be designed to expose air traffic controllers to circumstances and situations which they do not habitually or commonly experience.

The essential difference from an emergency situation is that the element of danger or serious risk is not necessarily present in an abnormal situation.

GM1 ATCO.D.080(b)(1);(2) Refresher training

EFFECTIVE COMMUNICATION

Communication misunderstanding is present in many air traffic occurrences and the consistent use of approved phraseology is designed to mitigate such occurrences.

For the purpose of refresher training, emphasis is, therefore, put on effective communication, including the use of approved phraseology, both for the use of standard practices and procedures and for abnormal and emergency situations training.

Effective communication should make use of a variety of communication modes, including the use of appropriate phraseology and radio communication.

Phraseology and radio communication training is part of the linguistic training according to ICAO; radio communication phraseology samples offer learning opportunities and foster harmonisation.

AMC1 ATCO.D.080(b)(3) Refresher training

HUMAN FACTORS

(a) Training organisations should train air traffic controllers at least in team resource management, fatigue management and stress management.

(b) The team resource management training may also make use of STD and/or occurrence case studies.

ATCO.D.085 Conversion training

(a) Conversion training course(s) shall be developed and provided by training organisations and approved by the competent authority.

(b) Conversion training shall be designed to provide knowledge and skills appropriate to a change in the operational environment and shall be provided by training organisations when the safety assessment of the change concludes the need for such training.

(c) Conversion training courses shall include the determination of:

(1) the appropriate training method for and duration of the course, taking into account the nature and extent of the change; and

(2) the examination and/or assessment methods for the conversion training.

(d) Conversion training shall be provided before air traffic controllers exercise the privileges of their licence in the changed operational environment.

GM1 ATCO.D.085 Conversion training

TRAINING FOR AIR TRAFFIC CONTROLLERS PROVIDING AERODROME CONTROL SERVICE FROM A REMOTE TOWER

When converting from a conventional tower to a remote tower, the conversion training for air traffic controllers providing aerodrome control service from a remote tower should at least include the subjects, subject objectives, topics and subtopics as specified in GM4 ATCO.D.060(c).

When converting from a remote tower to a conventional tower, the training organisation should consider possible additional training needs, if appropriate, required by the change of operational environment.

SECTION 5
TRAINING OF INSTRUCTORS AND ASSESSORS

ATCO.D.090 Training of practical instructors

(a) Training of practical instructors shall be developed and provided by training organisations and shall consist of:

(1) a practical instructional techniques course for OJTI and/or STDI, including an assessment;

(2) a refresher training course on practical instructional skills;

(3) a method(s) for assessing the competence of practical instructors.

(b) The training courses and assessment methods referred to in point (a) shall be approved by the competent authority.

AMC1 ATCO.D.090(a)(1) Training of practical instructors

SYNTHETIC TRAINING DEVICES USED FOR OJTI TRAINING

For the training of on-the-job training instructors, a part-task trainer or a simulator should be used.

If the synthetic training environment does not correspond to the rating of the intended instructional environment, the applicant should practise the instructional skills in those procedures in which it is intended to provide instruction for at least one day before being assessed.

AMC2 ATCO.D.090(a)(1) Training of practical instructors

ASSESSMENT OF INSTRUCTIONAL TECHNIQUES FOR PRACTICAL INSTRUCTORS

A successful assessment of instructional techniques for practical instructors should establish competence at least in the following areas:

(a) regulatory impact on air traffic controller training;

(b) human factors impact on air traffic controller training;

(c) determination of the background and experience of the person undertaking training;

(d) determination of the current level of ability of the person undertaking training;

(e) conduct of a pre-session briefing;

(f) planning and conduct of the training session;

(g) demonstration and explanation of the tasks;

(h) monitoring of the training session;

(i) management of interventions correctly, including error correction;

(j) evaluation of the performance of the person undertaking training;

(k) debrief of the person undertaking training;

(l) furnishing of written reports on the performance of the person undertaking training;

(m) taking appropriate follow-up action towards resolving training problems;

(n) techniques of pausing clocks; and

(o) knowledge of technical facilities/environment.

AMC1 ATCO.D.090(a)(2) Training of practical instructors

REFRESHER TRAINING IN PRACTICAL INSTRUCTIONAL SKILLS

Refresher training in practical instructional skills should prevent knowledge and skills erosion, and, for the training of STDIs, it should be designed to maintain awareness of the current operational practices.

AMC1 ATCO.D.090(a)(3) Training of practical instructors

PRACTICAL INSTRUCTOR COMPETENCE ASSESSMENT

The practical instructor competence assessment for an OJTI may be undertaken either in live operations or on a synthetic training device.

The practical instructor competence assessment for an STDI should be undertaken on a synthetic training device.

GM1 ATCO.D.090 Training of practical instructors

PRACTICAL INSTRUCTIONAL TECHNIQUES COURSE FOR OJTIS

Further information regarding the practical instructional techniques course for OJTIs can be found in EUROCONTROL's document 'Guidelines for ATCO Development Training — OJTI Course Syllabus', Edition 2.0, dated 27.08.2009.

ATCO.D.095 Training of assessors

(a) Training of assessors shall be developed and provided by training organisations and shall consist of:

(1) an assessor training course, including an assessment;

(2) a refresher training course on assessment skills;

(3) a method(s) for assessing the competence of assessors.

(b) The training courses and the assessment method referred to in point (a) shall be approved by the competent authority.

AMC1 ATCO.D.095(a)(1) Training of assessors

ASSESSOR TRAINING COURSE

A successful assessment for the purpose of the assessor training course should establish competence at least in the following areas of assessment knowledge and techniques:

(a) regulatory environment and legal obligations;

(b) types of assessment and their application;

(c) performance objectives constituting air traffic controller competence;

(d) conditions of assessments to create reliable results;

(e) processing of assessments and administrative procedures;

(f) giving verbal feedback and writing assessment reports;

(g) vested interests and code of conduct;

(h) accurately assessing competence against the performance objectives;

(i) developing a good questioning technique and designing questions appropriate to the assessment.

AMC2 ATCO.D.095(a)(1) Training of assessors

ASSESSMENT OF ASSESSOR COMPETENCE

The assessment of assessor competence should focus on the application of the skills of an assessor. The skills should represent at least a subset of the competences taught during the assessor training course.

AMC1 ATCO.D.095(a)(2) Training of assessors

REFRESHER TRAINING IN ASSESSMENT SKILLS

Refresher training in assessment skills should prevent knowledge and skills erosion and it should be designed to maintain skills in assessment techniques and awareness of the regulatory environment.

GM1 ATCO.D.095(a)(3) Training of assessors

ASSESSMENT OF ASSESSOR COMPETENCE

The level of harmonisation on competence assessment is low as a result of the variety of methods. Any assessment of assessor competence should be realistic and it could take place during live traffic situations or during training.

APPENDIX 1 OF ANNEX I

AMC1 ATCO.D.010(a)(1) Composition of initial training - content

Language proficiency rating scale: expert, extended and operational levels

Level	Pronunciation Uses a dialect and/or accent intelligible to the aeronautical community	Structure Relevant grammatical structures and sentence patterns are determined by language functions appropriate to the task	Vocabulary	Fluency	Comprehension	Interactions
Expert 6	Pronunciation, stress, rhythm and intonation, though possibly influenced by the first language or regional variation, almost never interfere with ease of understanding.	Both basic and complex grammatical structures and sentence patterns are consistently well controlled.	Vocabulary range and accuracy are sufficient to communicate effectively on a wide variety of familiar and unfamiliar topics. Vocabulary is idiomatic, nuanced, and sensitive to register.	Able to speak at length with a natural, effortless flow. Varies speech flow for stylistic effect, e.g. to emphasise a point. Uses appropriate discourse markers and connectors spontaneously	Comprehension is consistently accurate in nearly all contexts and includes comprehension of linguistic and cultural subtleties.	Interacts with ease in nearly all situations. Is sensitive to verbal and non-verbal cues, and responds to them appropriately.
Extended 5	Pronunciation, stress, rhythm and intonation, though influenced by the	Basic grammatical structures and sentence patterns are consistently	Vocabulary range and accuracy are sufficient to communicate	Able to speak at length with relative ease on familiar topics, but	Comprehension is accurate on common, concrete, and work-related	Responses are immediate, appropriate, and informative.

Level	Pronunciation Uses a dialect and/or accent intelligible to the aeronautical community	Structure Relevant grammatical structures and sentence patterns are determined by language functions appropriate to the task	Vocabulary	Fluency	Comprehension	Interactions
	first language or regional variation, rarely interfere with ease of understanding.	well controlled. Complex structures are attempted but with errors which sometimes interfere with meaning.	effectively on common, concrete, and work-related topics. Paraphrases consistently and successfully. Vocabulary is sometimes idiomatic.	may not vary speech flow as a stylistic device. Can make use of appropriate discourse markers or connectors.	topics and mostly accurate when the speaker is confronted with a linguistic or situational complication or an unexpected turn of events. Is able to comprehend a range of speech varieties (dialect and/or accent) or registers.	Manages the speaker/listener relationship effectively.
Operational 4	Pronunciation, stress, rhythm and intonation are influenced by the first language or regional variation but only sometimes interfere with ease of understanding.	Basic grammatical structures and sentence patterns are used creatively and are usually well controlled. Errors may occur, particularly in unusual or unexpected	Vocabulary range and accuracy are usually sufficient to communicate effectively on common, concrete, and work-related topics. Can often paraphrase	Produces stretches of language at an appropriate tempo. There may be occasional loss of fluency on transition from rehearsed or formulaic speech	Comprehension is mostly accurate on common, concrete, and work-related topics when the accent or variety used is sufficiently intelligible for an international community of users.	Responses are usually immediate, appropriate, and informative. Initiates and maintains exchanges even when dealing with an unexpected turn of events.

Level	Pronunciation Uses a dialect and/or accent intelligible to the aeronautical community	Structure Relevant grammatical structures and sentence patterns are determined by language functions appropriate to the task	Vocabulary	Fluency	Comprehension	Interactions
		circumstances, but rarely interfere with meaning.	successfully when lacking vocabulary in unusual or unexpected circumstances.	to spontaneous interaction, but this does not prevent effective communication. Can make limited use of discourse markers or connectors. Fillers are not distracting.	When the speaker is confronted with a linguistic or situational complication or an unexpected turn of events, comprehension may be slower or require clarification strategies.	Deals adequately with apparent misunderstandings by checking, confirming, or clarifying.

Language proficiency rating scale: pre-operational, elementary and pre-elementary levels

Level	Pronunciation Uses a dialect and/or accent intelligible to the aeronautical community	Structure Relevant grammatical structures and sentence patterns are determined by language functions appropriate to the task	Vocabulary	Fluency	Comprehension	Interactions
Pre-operational 3	Pronunciation, stress, rhythm and intonation are	Basic grammatical structures and sentence patterns	Vocabulary range and accuracy are often sufficient to	Produces stretches of language, but	Comprehension is often accurate on common, concrete,	Responses are sometimes immediate,

Level	Pronunciation Uses a dialect and/or accent intelligible to the aeronautical community	Structure Relevant grammatical structures and sentence patterns are determined by language functions appropriate to the task	Vocabulary	Fluency	Comprehension	Interactions
	influenced by the first language or regional variation and frequently interfere with ease of understanding.	associated with predictable situations are not always well controlled. Errors frequently interfere with meaning.	communicate on common, concrete, or work-related topics but range is limited and the word choice often inappropriate. Is often unable to paraphrase successfully when lacking vocabulary.	phrasing and pausing are often inappropriate. Hesitations or slowness in language processing may prevent effective communication. Fillers are sometimes distracting.	and work-related topics when the accent or variety used is sufficiently intelligible for an international community of users. May fail to understand a linguistic or situational complication or an unexpected turn of events.	appropriate, and informative. Can initiate and maintain exchanges with reasonable ease on familiar topics and in predictable situations. Generally inadequate when dealing with an unexpected turn of events.
Elementary 2	Pronunciation, stress, rhythm and intonation are heavily influenced by the first language or regional variation and usually interfere with ease of understanding.	Shows only limited control of a few simple memorised grammatical structures and sentence patterns.	Limited vocabulary range consisting only of isolated words and memorised phrases.	Can produce very short, isolated, memorised utterances with frequent pausing and a distracting use of fillers to search for expressions and to articulate less	Comprehension is limited to isolated, memorised phrases when they are carefully and slowly articulated.	Response time is slow, and often inappropriate. Interaction is limited to simple routine exchanges.

Level	Pronunciation Uses a dialect and/or accent intelligible to the aeronautical community	Structure Relevant grammatical structures and sentence patterns are determined by language functions appropriate to the task	Vocabulary	Fluency	Comprehension	Interactions
				familiar words.		
Pre-elementary 1	Performs at a level below the Elementary level.	Performs at a level below the Elementary level.	Performs at a level below the Elementary level.	Performs at a level below the Elementary level.	Performs at a level below the Elementary level.	Performs at a level below the Elementary level.

APPENDIX 2 OF ANNEX I

BASIC TRAINING

Subjects, topics and subtopics from Appendix 2 to Annex I to Commission Regulation (EU) 2015/340 are available in AMC1 ATCO.D.010(a)(1) 'Composition of initial training - BASIC TRAINING' together with the respective subject objectives and training objectives, for the convenience of the reader.

[Please find the link to the concerned AMC here]

APPENDIX 3 OF ANNEX I

AERODROME CONTROL VISUAL RATING (ADV) TRAINING

Subjects, topics and subtopics from Appendix 3 to Annex I to Commission Regulation (EU) 2015/340 are available in AMC1 ATCO.D.010(a)(2)(i) 'Composition of initial training - AERODROME CONTROL VISUAL RATING (ADV) TRAINING' together with the respective subject objectives and training objectives, for the convenience of the reader.

[Please find the link to the concerned AMC here]

APPENDIX 4 OF ANNEX I

AERODROME CONTROL INSTRUMENT RATING FOR TOWER ADI (TWR) TRAINING

Subjects, topics and subtopics from Appendix 4 to Annex I to Commission Regulation (EU) 2015/340 are available in AMC1 ATCO.D.010(a)(2)(ii) 'Composition of initial training - AERODROME CONTROL INSTRUMENT RATING FOR TOWER ADI (TWR) TRAINING' together with the respective subject objectives and training objectives, for the convenience of the reader.

[Please find the link to the concerned AMC here]

APPENDIX 5 OF ANNEX I

APPROACH CONTROL PROCEDURAL RATING (APP) TRAINING

Subjects, topics and subtopics from Appendix 5 to Annex I to Commission Regulation (EU) 2015/340 are available in AMC1 ATCO.D.010(a)(2)(iii) 'Composition of initial training - APPROACH CONTROL PROCEDURAL RATING (APP) TRAINING' together with the respective subject objectives and training objectives, for the convenience of the reader.

[Please find the link to the concerned AMC here]

APPENDIX 6 OF ANNEX I

AREA CONTROL PROCEDURAL RATING (ACP)

Subjects, topics and subtopics from Appendix 6 to Annex I to Commission Regulation (EU) 2015/340 are available in AMC1 ATCO.D.010(a)(2)(iv) 'Composition of initial training - AREA CONTROL PROCEDURAL RATING (ACP) TRAINING' together with the respective subject objectives and training objectives, for the convenience of the reader.

[Please find the link to the concerned AMC here]

APPENDIX 7 OF ANNEX I

APPROACH CONTROL SURVEILLANCE RATING (APS)

Subjects, topics and subtopics from Appendix 7 to Annex I to Commission Regulation (EU) 2015/340 are available in AMC1 ATCO.D.010(a)(2)(v) 'Composition of initial training - APPROACH CONTROL SURVEILLANCE RATING (APS) TRAINING' together with the respective subject objectives and training objectives, for the convenience of the reader.

[Please find the link to the concerned AMC here]

APPENDIX 8 OF ANNEX I

AREA CONTROL SURVEILLANCE RATING (ACS)

Subjects, topics and subtopics from Appendix 8 to Annex I to Commission Regulation (EU) 2015/340 are available in AMC1 ATCO.D.010(a)(2)(vi) 'Composition of initial training - AREA CONTROL SURVEILLANCE RATING (ACS) TRAINING' together with the respective subject objectives and training objectives, for the convenience of the reader.

[Please find the link to the concerned AMC here]

ANNEX II

PART ATCO.AR
REQUIREMENTS FOR COMPETENT AUTHORITIES

SUBPART A — GENERAL REQUIREMENTS

ATCO.AR.A.001 Scope

This Part, set out in this Annex, establishes the administrative requirements applicable to the competent authorities with responsibility for the issue, maintenance, suspension or revocation of licences, ratings, endorsements and medical certificates for air traffic controllers and certification and oversight of training organisations and aero-medical centres.

ATCO.AR.A.005 Personnel

(a) Competent authorities shall produce and update every two years an assessment of the human resources needed to perform their oversight functions, based on the analysis of the processes required by this Regulation and their application.

(b) Personnel authorised by the competent authority to carry out certification and/or oversight tasks shall be empowered to perform as a minimum the following tasks:

(1) examine documents, including licences, certificates, records, data, procedures and any other material relevant to the execution of the required task;

(2) take copies of or extracts from such records, data, procedures and other material;

(3) ask for an explanation;

(4) enter relevant premises and operating sites;

(5) perform audits and inspections, including unannounced inspections;

(6) take or initiate enforcement measures as appropriate.

(c) The competent authority may authorise its personnel to conduct assessments leading to the issue, revalidation and renewal of a unit endorsement provided that they meet the requirements set out in ATCO.C.045, with the exception of point (d)(1). Familiarity with the current operational practices and procedures of the unit, where the assessment is taking place, shall however be ensured.

GM1 ATCO.AR.A.005(c) Personnel

GENERAL

When competent authority personnel is authorised to conduct assessments for the issue and renewal of a unit endorsement who:

(a) do not hold the unit endorsement associated with the assessment, or

(b) hold the unit endorsement associated with the assessment without an OJTI endorsement,

an OJTI holding the valid unit endorsement associated with the assessment should be present to ensure supervision on the operational working position.

ATCO.AR.A.010 Tasks of the competent authorities

(a) The tasks of the competent authorities shall include:

(1) the issue, suspension and revocation of licences, ratings, endorsements and of medical certificates;

(2) the issue of temporary OJTI authorisations according to ATCO.C.025;

(3) the issue of temporary assessor authorisations according to ATCO.C.065;

(4) the revalidation and renewal of endorsements;

(5) the revalidation, renewal and limitation of medical certificates following referral by the AME or AeMC;

(6) the issue, revalidation, renewal, suspension, revocation, limitation and change of aero-medical examiner certificates;

(7) the issue, suspension, revocation and limitation of training organisation certificates and of the certificates of aero-medical centres;

(8) the approval of training courses, plans and unit competence schemes, as well as assessment methods;

(9) the approval of the assessment method for the demonstration of language proficiency and the establishment of requirements applicable to language assessment bodies according to ATCO.B.040;

(10) the approval of the need for the extended level (level five) language proficiency in accordance with ATCO.B.030(d);

(11) the monitoring of training organisations, including their training courses and plans;

(12) the approval and monitoring of the unit competence schemes;

(13) the establishment of appropriate appeal procedures and notification mechanisms;

(14) facilitating the recognition and exchange of licences, including the transfer of the records of air traffic controllers and return of the old licence to the issuing competent authority according to ATCO.A.010;

(15) facilitating the recognition of training organisation certificates and course approvals.

ATCO.AR.A.015 Means of compliance

(a) The Agency shall develop Acceptable Means of Compliance (AMC) that may be used to establish compliance with Regulation (EC) No 216/2008 and its implementing rules. When AMC are complied with, the related requirements of the implementing rules are met.

(b) Alternative means of compliance may be used to establish compliance with the implementing rules.

(c) The competent authority shall establish a system to consistently evaluate that all alternative means of compliance used by itself or by organisations and persons under its oversight allow the establishment of compliance with Regulation (EC) No 216/2008 and its implementing rules.

(d) The competent authority shall evaluate all alternative means of compliance proposed by an organisation in accordance with ATCO.OR.B.005 by analysing the documentation provided and, if considered necessary, conducting an inspection of the organisation.

When the competent authority finds that the alternative means of compliance are in accordance with the implementing rules, it shall without undue delay:

(1) notify the applicant that the alternative means of compliance may be implemented and, if applicable, amend the approval or certificate of the applicant accordingly;

(2) notify the Agency of their content, including copies of all relevant documentation; and

(3) inform other Member States about alternative means of compliance that were accepted.

(e) When the competent authority itself uses alternative means of compliance to achieve compliance with Regulation (EC) No 216/2008 and its implementing rules it shall:

(1) make them available to all organisations and persons under its oversight; and

(2) notify the Agency without undue delay.

The competent authority shall provide the Agency with a full description of the alternative means of compliance, including any revisions to procedures that may be relevant, as well as an assessment demonstrating that the implementing rules are met.

AMC1 ATCO.AR.A.015(d)(3) Means of compliance

GENERAL

The information to be provided to other Member States following approval of an alternative means of compliance should contain a reference to the Acceptable Means of Compliance (AMC) to which such means of compliance provides an alternative, as well as a reference to the corresponding Implementing Rule of Regulation (EC) No 216/2008 indicating as applicable the subparagraph(s) covered by the alternative means of compliance.

GM1 ATCO.AR.A.015 Means of compliance

GENERAL

Alternative means of compliance used by a competent authority or by organisations under its oversight may be used by other competent authorities or organisations only if processed again in accordance with ATCO.AR.A.015(d) and (e).

ATCO.AR.A.020 Information to the Agency

(a) The competent authority shall without undue delay notify the Agency in case of any significant problems with the implementation of Regulation (EC) No 216/2008 and this Regulation.

(b) The competent authority shall provide the Agency with safety-significant information stemming from the occurrence reports it has received.

GM1 ATCO.AR.A.020(b) Information to the Agency

MEANING OF SAFETY-SIGNIFICANT INFORMATION STEMMING FROM OCCURRENCE REPORTS

The following should be considered safety-significant information from occurrence reports:

(a) conclusive safety analyses that summarise individual occurrence data and provide an in-depth assessment of the safety issue. These safety analyses can be used for Agency rulemaking or for safety promotion activities such as the European Aviation Safety Plan; and

(b) individual occurrence data where the Agency is the competent authority.

ATCO.AR.A.025 Immediate reaction to a safety problem

(a) Without prejudice to Regulation (EU) No 376/2014 of the European Parliament and of the Council[1], the competent authority shall implement a system to appropriately collect, analyse and disseminate safety information.

(b) The Agency shall implement a system to appropriately analyse any relevant safety information received and without undue delay provide to Member States and the Commission any information, including recommendations or corrective actions to be taken, necessary for them to react in a timely manner to a safety problem involving products, parts, appliances, persons or organisations subject to Regulation (EC) No 216/2008 and its implementing rules.

(c) Upon receiving the information referred to in points (a) and (b), the competent authority shall take adequate measures to address the safety problem.

(d) Measures taken in accordance with point (c) shall immediately be notified to all persons or organisations which need to comply with them under Regulation (EC) No 216/2008 and its implementing rules. The competent authority shall also notify those measures to the Agency and, when combined action is required, to the other Member States concerned.

[1] Regulation (EU) No 376/2014 of the European Parliament and of the Council of 3 April 2014 on the reporting, analysis and follow-up of occurrences in civil aviation, amending Regulation (EU) No 996/2010 of the European Parliament and of the Council and repealing Directive 2003/42/EC of the European Parliament and of the Council and Commission Regulations (EC) No 1321/2007 and (EC) No 1330/2007 (OJ L 122, 24.4.2014, p. 18–43).

SUBPART B — MANAGEMENT

ATCO.AR.B.001 Management system

(a) The competent authority shall establish and maintain a management system, including as a minimum:

(1) documented policies and procedures to describe its organisation, means and methods to achieve compliance with Regulation (EC) No 216/2008 and this Regulation. The procedures shall be kept up to date and serve as the basic working documents within that competent authority for all related tasks;

(2) a sufficient number of personnel, including licensing and certification inspectors, to perform its tasks and discharge its responsibilities. Such personnel shall be qualified to perform their allocated tasks and have the necessary knowledge, experience, initial, on-the-job and recurrent training to ensure continuing competence. A system shall be in place to plan the availability of personnel in order to ensure the proper completion of all related tasks;

(3) adequate facilities and office accommodation to perform the allocated tasks;

(4) a function to monitor compliance of the management system with the relevant requirements and adequacy of the procedures, including the establishment of an internal audit process and a safety risk management process. Compliance monitoring shall include a feedback system of audit findings to the senior management of the competent authority to ensure implementation of corrective actions as necessary; and

(5) a person or group of persons ultimately responsible to the senior management of the competent authority for the compliance monitoring function.

(b) The competent authority shall, for each field of activity included in the management system, appoint one or more persons with the overall responsibility for the management of the relevant task(s).

(c) The competent authority shall establish procedures for the participation in the exchange of all necessary information and assistance with other competent authorities concerned, including information exchange on all findings raised and follow-up actions taken as a result of oversight of persons and organisations exercising activities in the territory of a Member State, but certified by the competent authority of another Member State or the Agency.

(d) A copy of the procedures related to the management system and their amendments shall be made available to the Agency for the purpose of standardisation.

AMC1 ATCO.AR.B.001(a)(2) Management system

TRAINING PROGRAMME AND RECURRENT TRAINING

(a) The competent authority should establish a training programme for its personnel and a plan for its implementation. The training programme should include, as appropriate to the role, current knowledge, experience and skills of the personnel, at least the following:

(1) organisation and structure of the aviation legislation;

(2) the Chicago Convention, its relevant annexes and documents, the applicable requirements of Regulation (EC) No 216/2008, its Implementing Rules and related Acceptable Means of Compliance, Certification Specifications and Guidance Material, as well as assessment methodology of the alternative means of compliance and the applicable national legislation;

(3) the applicable requirements and procedures; and

(4) areas of particular interest.

(b) The training programme and plan should be updated, as needed, to reflect, at least, changes in aviation legislation and industry. The training programme should also cover the specific needs of the personnel and the competent authority.

(c) The competent authority should ensure that its personnel, including its ATM/ANS inspectors, undergo recurrent training at regular intervals as defined by the competent authority or whenever deemed necessary, in order to be kept up to date.

AMC1 ATCO.AR.B.001(d) Management system

PROCEDURES AVAILABLE TO THE AGENCY

(a) Copies of the procedures related to the competent authority's management system and their amendments to be made available to the Agency for the purpose of standardisation should provide at least the following information:

(1) Regarding oversight functions undertaken by the competent authority, the competent authority's organisational structure with description of the main processes. This information should demonstrate the allocation of responsibilities within the competent authority, and that the competent authority is capable of carrying out the full range of tasks regarding the size and complexity of the Member State's aviation industry. It should also consider the overall proficiency and authorisation scope of the competent authority's personnel.

(2) For personnel involved in oversight activities, the minimum professional qualification requirements as well as experience and procedures leading to appointment (e.g. assessment).

(3) How the following are carried out: assessing applications and evaluating compliance, issuing of certificates, performance of oversight, follow-up of findings, enforcement measures and resolution of safety concerns.

(4) Principles of managing exemptions and derogations.

(5) Systems used to disseminate applicable safety information for timely reaction to a safety problem.

(6) Criteria for planning oversight (oversight programme).

(7) Outline of the initial training of newly recruited oversight personnel (taking future activities into account), and the basic framework for continuation training of oversight personnel.

(b) As part of the continuous monitoring of a competent authority, the Agency may request details of the working methods used, in addition to the copy of the procedures of the competent authority's management system (and amendments thereto). These additional details are the procedures and related guidance material describing working methods for competent authority personnel conducting oversight.

(c) Information related to the competent authority's management system may be submitted in electronic format.

ATCO.AR.B.005 Allocation of tasks to qualified entities

(a) If the competent authority allocates tasks related to the initial certification or continuous oversight of persons or organisations subject to Regulation (EC) No 216/2008 and its implementing rules, they shall only be allocated to qualified entities. When allocating tasks, the competent authority shall ensure that it has:

(1) a system in place to initially and continuously assess that the qualified entity complies with Annex V to Regulation (EC) No 216/2008.

This system and the results of the assessments shall be documented;

(2) established a documented agreement with a qualified entity, approved by both parties at the appropriate management level, which clearly defines:

(i) the tasks to be performed;

(ii) the declarations, reports and records to be provided;

(iii) the technical conditions to be met in performing such tasks;

(iv) the related liability coverage; and

(v) the protection given to information acquired in carrying out such tasks.

(b) The competent authority shall ensure that the internal audit process and a safety risk management process required by ATCO.AR.B.001(a)(4) cover all certification or oversight tasks performed on its behalf.

GM1 ATCO.AR.B.005 Allocation of tasks to qualified entities

CERTIFICATION TASKS

The tasks that may be performed by a qualified entity on behalf of the competent authority include those related to the initial certification and oversight of training organisations as defined in this Regulation, excluding:

(a) the issue, suspension and revocation of licences, ratings and endorsements;

(b) the issue of temporary OJTI authorisations according to ATCO.C.025;

(c) the issue of temporary assessor authorisations according to ATCO.C.065;

(d) the issue, renewal, suspension, revocation and limitation of training organisation certificates.

ATCO.AR.B.010 Changes to the management system

(a) The competent authority shall have a system in place to identify changes that affect its capability to perform its tasks and discharge its responsibilities as defined in Regulation (EC) No 216/2008 and this Regulation. It shall enable it to take action, as appropriate, to ensure that the management system remains adequate and effective.

(b) The competent authority shall update its management system to reflect any change to Regulation (EC) No 216/2008 and this Regulation in a timely manner in order to ensure effective implementation.

(c) The competent authority shall notify the Agency of changes affecting its capability to perform its tasks and discharge its responsibilities as defined in Regulation (EC) No 216/2008 and this Regulation.

ATCO.AR.B.015 Record keeping

(a) Competent authorities shall maintain a list of all organisation certificates and personnel licences and certificates they issue.

(b) The competent authority shall establish a system of record keeping providing for adequate storage, accessibility and reliable traceability of:

(1) the management system's documented policies and procedures;

(2) training, qualification and authorisation of its personnel;

(3) the allocation of tasks, covering the elements required by ATCO.AR.B.005 as well as the details of tasks allocated;

(4) certification processes and continuing oversight of certified organisations;

(5) details of courses provided by training organisations;

(6) processes for the issue of licences, ratings, endorsements and certificates, and for the continuing oversight of the holders of those licences, ratings, endorsements and certificates;

(7) continuing oversight of persons and organisations exercising activities within the territory of the Member State, but certified by the competent authority of another Member State, as agreed between these authorities;

(8) findings, corrective actions and date of action closure;

(9) enforcement measures taken;

(10) safety information and follow-up measures;

(11) the use of flexibility provisions in accordance with Article 14 of Regulation (EC) No 216/2008; and

(12) the evaluation and notification to the Agency of alternative means of compliance proposed by organisations and the assessment of alternative means of compliance used by the competent authority itself.

(c) Records shall be kept for a minimum period of 5 years and with regard to personnel licences for a minimum period of 10 years after the expiry of the last endorsement on the licence, subject to applicable data protection law.

GM1 ATCO.AR.B.015 Record keeping

STORAGE

Records may be stored electronically.

GM1 ATCO.AR.B.015(b)(5) Record keeping

DETAILS OF COURSES

Details of courses provided by training organisations may consist of subjects, subject objectives, topics and subtopics, where applicable.

SUBPART C — OVERSIGHT AND ENFORCEMENT

ATCO.AR.C.001 Oversight

(a) The competent authority shall verify:

(1) compliance with requirements applicable to organisations or persons prior to the issue of an organisation certificate or personnel licence, certificate, rating or endorsement, as applicable;

(2) the continued compliance with the applicable requirements and the conditions attached to the training organisation's certificate, as well as the applicable requirements for training courses, plans and schemes it has approved and requirements applicable to personnel;

(3) implementation of appropriate safety measures mandated by the competent authority as defined in ATCO.AR.A.025(c) and (d).

(b) This verification shall:

(1) be supported by documentation specifically intended to provide guidance to the personnel responsible for safety oversight in order to perform their functions;

(2) provide persons and organisations concerned with the results of the safety oversight activity;

(3) be based on audits and inspections including, as appropriate, unannounced inspections; and

(4) provide the competent authority with the evidence needed in case further action is required, including the measures foreseen in ATCO.AR.C.010 and ATCO.AR.E.015.

(c) The scope of oversight shall be determined on the basis of the scope and results of past oversight activities and safety priorities.

(d) Without prejudice to the competencies of the Member States, the scope and results of oversight of activities performed in the territory of a Member State by persons or organisations established or residing in another Member State shall be determined on the basis of the safety priorities, as well as past oversight activities.

(e) Where the activity of a person or organisation involves more than one Member State, the competent authority responsible for the oversight according to points (a) to (c) may agree to specific alternative oversight arrangements with the other competent authority(ies). Any person or organisation subject to such agreement shall be informed of its existence and of its scope.

ATCO.AR.C.005 Oversight programme

(a) The competent authority shall establish and maintain an oversight programme covering the oversight activities required by ATCO.AR.C.001.

(b) For organisations certified by the competent authority the oversight programme shall be developed taking into account the specific nature of the organisation, the complexity of its activities and past certification and/or oversight activities. It shall include within each oversight planning cycle:

(1) audits and inspections, if needed, including unannounced inspections as appropriate; and

(2) meetings convened between the management of the training organisation and the competent authority to ensure that both remain informed of significant issues.

(c) For organisations certified by the competent authority an oversight planning cycle not exceeding 24 months shall be applied.

The oversight planning cycle may be reduced if there is evidence that the safety performance of the organisation has decreased.

The oversight planning cycle may be extended to a maximum of 36 months if the competent authority has established that during the previous 24 months:

(1) the organisation has demonstrated an effective identification of aviation safety hazards and management of associated risks; and

(2) the organisation has continuously demonstrated under ATCO.OR.B.015 that it has full control over all changes; and

(3) no level 1 findings have been issued; and

(4) all corrective actions have been implemented within the time period accepted or extended by the competent authority as defined in ATCO.AR.E.015.

The oversight planning cycle may be further extended to a maximum of 48 months if, in addition to the above, the organisation has established, and the competent authority has approved, an effective continuous reporting system to the competent authority on the safety performance and regulatory compliance of the organisation itself.

(d) The oversight programme for training organisations shall include the monitoring of training standards including the sampling of training delivery if appropriate.

(e) For persons holding a licence, rating or endorsement issued by the competent authority the oversight programme shall include inspections, including unannounced inspections, if appropriate.

AMC1 ATCO.AR.C.005 Oversight programme

AUDIT AND INSPECTION

(a) The audit and inspection of a certified training organisation should be conducted through checking of the facility for compliance, interviewing personnel and sampling relevant training courses to assess their conduct and standard.

(b) Such audit and inspection should focus in addition to the items of AMC1 ATCO.AR.E.010 on:

(1) information on the competence of instructors and assessors;

(2) evidence of sufficient funding;

(3) adequacy of the facilities to the courses being conducted and to the number of persons undertaking training;

(4) synthetic training devices;

(5) documentation, in particular documents related to courses, information on the updating system, training and operations manual;

(6) training records and forms.

ATCO.AR.C.010 Findings and enforcement measures for personnel

(a) If during oversight or by any other means evidence is found by the competent authority responsible for the oversight in accordance with ATCO.AR.C.001 that shows non-compliance with the applicable requirements by a person holding a licence issued in accordance with this Regulation, the competent authority shall raise a finding, record it and communicate it in writing to the licence holder, as well as communicate the finding to the employing organisation, if applicable.

(b) When the competent authority that raised the finding is the competent authority responsible for the issuing of the licence:

(1) it may suspend or revoke the licence, rating or endorsement, as applicable, when a safety issue has been identified; and

(2) it shall take any further enforcement measures necessary to prevent the continuation of the non-compliance.

(c) When the competent authority that raised the finding is not the competent authority responsible for the issuing of the licence, it shall inform the competent authority that issued the licence. In this case, the competent authority that issued the licence shall take action in accordance with point (b) and inform the competent authority that raised the finding.

SUBPART D — ISSUE, REVALIDATION, RENEWAL, SUSPENSION AND REVOCATION OF LICENCES, RATINGS,ENDORSEMENTS AND AUTHORISATIONS

ATCO.AR.D.001 Procedure for the issue, revalidation and renewal of licences, ratings, endorsements and authorisations

(a) The competent authority shall establish procedures for the application, issue and exchange of licences, issue of ratings and endorsements, as well as the revalidation and renewal of endorsements. These procedures may include:

(1) the issue of temporary OJTI authorisation and temporary assessor authorisation; and

(2) if applicable, the authorisation for assessors to revalidate and renew unit endorsements in which case assessors shall submit all records, reports and any other information to the competent authority as defined in such procedures.

(b) Upon receiving an application and, if relevant, any supporting documentation, the competent authority shall verify the application completeness and whether the applicant meets the requirements set out in Annex I.

(c) If the applicant meets the applicable requirements, the competent authority shall issue, revalidate or renew, when appropriate, the relevant licence, rating(s) and endorsement(s) using the format for licences established in Appendix 1 of Annex II. The temporary OJTI authorisation referred to in ATCO.C.025 and the temporary assessor authorisation referred to in ATCO.C.065 shall be issued as a separate document wherein the privileges of the holder as well as the validity of the authorisation shall be specified.

(d) For the purpose of reducing unnecessary administrative burden, the competent authority may establish procedures for establishing a unique date of validity for several endorsements. In any case, the validity periods of the endorsements concerned shall not be extended.

(e) The competent authority shall replace the air traffic controller licence if necessary for administrative reasons and when point (XIIa) of the licence is completed and no further space remains. The date of the first issue of the ratings and rating endorsements shall be transferred to the new licence.

AMC1 ATCO.AR.D.001(a) Procedure for the issue, revalidation and renewal of licences, ratings, endorsements and authorisations

PROCEDURES

The competent authority may develop procedures to allow privileges to be exercised by the licence holder for a maximum period of eight weeks after successful completion of the applicable examination(s) and assessment(s), pending the issue of the licence, rating or endorsement.

Such procedures may cover licences, ratings and endorsements, but not the temporary authorisations.

GM1 ATCO.AR.D.001(a) Procedure for the issue, revalidation and renewal of licences, ratings, endorsements and authorisations

APPLICATION FORM FOR THE ISSUE, REVALIDATION AND RENEWAL OF LICENCES, RATINGS AND ENDORSEMENTS

<table>
<tr><td colspan="8">APPLICATION FOR ISSUE/REVALIDATION/RENEWAL OF (STUDENT) AIR TRAFFIC CONTROLLER (ATCO) LICENCE, RATINGS AND ENDORSEMENTS</td></tr>
<tr><td colspan="8">Part A: APPLICANT'S DETAILS</td></tr>
<tr><td colspan="8">Name:
Permanent address:……
Tel.:…… Mobile:…… E-mail address:……
Nationality: ……
Date (dd/mm/yyyy) and place of birth:……</td></tr>
<tr><td colspan="8">(STUDENT) ATCO LICENCE DETAILS (if applicable):
Licence serial No: ……
Date of issue (dd/mm/yyyy): ……</td></tr>
<tr><td colspan="8">EMPLOYER'S DETAILS (if applicable):
Name:</td></tr>
<tr><td colspan="8">Part B: APPLICATION FOR (Tick the relevant boxes)</td></tr>
<tr><td colspan="8">☐ Issue of Student ATCO Licence, rating(s) and rating endorsements) (Part C, E and F of this form)</td></tr>
<tr><td colspan="8">☐ Language endorsement(s) (Part C, E and F of this form)</td></tr>
<tr><td colspan="8">☐ Issue of ATCO Licence, rating(s) and rating endorsements) (Part C, E and F of this form)</td></tr>
<tr><td colspan="8">☐ Revalidation of ATCO Licence rating, endorsements (Part C, D, E and F of this form)</td></tr>
<tr><td colspan="8">☐ Renewal of ATCO Licence rating, endorsements (Part C, D, E and F of this form)</td></tr>
<tr><td colspan="8">Part C: RATING/RATING ENDORSEMENT/ATC UNIT/Sector</td></tr>
<tr><td>ADI ☐</td><td>(Unit, sector, working position)</td><td>TWR ☐</td><td>GMC ☐</td><td>GMS ☐</td><td>AIR ☐</td><td colspan="2">RAD ☐</td></tr>
<tr><td>APS ☐</td><td>(Unit, sector, working position)</td><td>PAR ☐</td><td>SRA ☐</td><td>TCL ☐</td><td colspan="3"></td></tr>
<tr><td>ACS ☐</td><td>(Unit, sector, working position)</td><td>TCL ☐</td><td>OCN ☐</td><td></td><td colspan="3"></td></tr>
<tr><td>ACP ☐</td><td>(Unit, sector, working position)</td><td>OCN ☐</td><td></td><td></td><td></td><td colspan="2"></td></tr>
<tr><td>ADV ☐</td><td>(Unit, sector, working position)</td><td></td><td></td><td></td><td></td><td colspan="2"></td></tr>
<tr><td>APP ☐</td><td>(Unit, sector, working position)</td><td></td><td></td><td></td><td></td><td colspan="2"></td></tr>
<tr><td colspan="8">Licence endorsements</td></tr>
<tr><td>OJTI ☐</td><td>STDI ☐</td><td>Assessor ☐</td><td colspan="2">Language proficiency endorsement
— level 4 ☐
— level 5 ☐
— level 6 ☐</td><td colspan="3">Local (specify language) _ language proficiency endorsement*
— level 4 ☐
— level 5 ☐
— level 6 ☐
* Optional, if imposed by the Member State for reasons of safety at the ATC unit as published in AIP.</td></tr>
</table>

Part D: Unit endorsement revalidation/renewal

The applicant meets the requirements according to Regulation (EU) …./…. and to the unit competence scheme of unit …….

The unit/licence endorsements annotated below are revalidated/renewed * (delete as appropriate).

Based on this, **REVALIDATION/RENEWAL** can be done as listed below:

Unit endorsement:		**Valid until:**	
Unit endorsement:		**Valid until:**	
Unit endorsement:		**Valid until:**	
Unit endorsement:		**Valid until:**	
Unit endorsement:		**Valid until:**	
Unit endorsement:		**Valid until:**	

I certify that the data is complete and true **Authorised assessor:**	**Name:**	**Assessor's licence number:**	**Signature:**

Part E: Declaration

I hereby:

1. apply for the issue/revalidation/renewal of (Student) ATCO Licence, ratings and/or endorsements as indicated;
2. confirm that the information contained herein is correct at the time of the application;
3. confirm that I am not holding any (Student) ATCO Licence issued in another Member State;
4. confirm that I have not applied for any (Student) ATCO Licence in another Member State; and
5. confirm that I have never held a (Student) ATCO Licence issued in another Member State which has been revoked or suspended in any other Member State.

I understand that any incorrect information provided herein could prohibit me from holding a (Student) ATCO Licence.

Signed: . . . . . Name: . . . . . .

Date (dd/mm/yyyy): . . . . . .

Part F: Certificates/Documents

Please enclose all relevant certificates and/or documents:

1. Copy of Student ATCO Licence, if applicable ☐
2. Copy of passport or other national ID ☐
3. Copy of medical certificate ☐
4. Copy of relevant training certificate/documents proving the successful completion of:
   - (a) Initial training (integrated) ☐
   - (b) Basic training ☐
   - (c) Rating training ☐
   - (d) Unit training ☐
   - (e) Practical instructor training ☐
   - (f) Assessor training ☐
   - (g) Refresher training ☐
5. Copy of language proficiency certificate(s): language(s) ☐
6. Certificate by ATC provider

proving that the licence holder has fulfilled the requirements in accordance with the approved unit competence scheme ☐

7. Copy of the competence assessment form ☐
8. Copy ☐

GM2 ATCO.AR.D.001(a) Procedure for the issue, revalidation and renewal of licences, ratings, endorsements and authorisations

APPLICATION FOR THE ISSUE, REVALIDATION AND RENEWAL OF LICENCES, RATINGS, ENDORSEMENTS AND AUTHORISATIONS

Application for the issue, revalidation and renewal of licences, ratings, endorsements and authorisations together with all relevant certificates and/or documents supporting the application might be submitted by secure electronic means.

GM1 ATCO.AR.D.001(b) Procedure for the issue, revalidation and renewal of licences, ratings, endorsements and authorisations

DATE OF SUCCESSFUL COMPLETION OF THE TRAINING

The date of successful completion of the training relevant to the rating and/or rating endorsement to be included in the (Student) ATCO Licence should be the date indicated in the certificate of successful completion of the relevant training issued by the training organisation.

GM1 ATCO.AR.D.001(c) Procedure for the issue, revalidation and renewal of licences, ratings, endorsements and authorisations

FORMAT FOR LICENCES (APPENDIX I TO ANNEX II)

The competent authority may enter into point (XIII) of the licence format all additional licensing information, such as national licence endorsements or holding a radio telephony (R/T) licence.

GM1 ATCO.AR.D.001(d) Procedure for the issue, revalidation and renewal of licences, ratings, endorsements and authorisations

UNIQUE DATE OF VALIDITY FOR ENDORSEMENTS

The procedure for establishing a unique date of validity for several endorsements should be applied when requested by the air navigation service provider or the applicant.

GM1 ATCO.AR.D.001(e) Procedure for the issue, revalidation and renewal of licences, ratings, endorsements and authorisations

ADMINISTRATIVE REASONS

For the purpose of issuing a new licence, administrative reasons may be the following but are not limited to:

(a) loss;

(b) theft;

(c) significant damage leading to illegibility.

ATCO.AR.D.005 Revocation and suspension of licences, ratings and endorsements

(a) For the purpose of ATCO.A.020 the competent authority shall establish administrative procedures for the suspension and revocation of licences, ratings and endorsements.

(b) The competent authority may suspend the licence in the case of provisional inability not being terminated according to the procedures referred to in ATCO.A.015(e).

(c) The competent authority shall suspend or revoke a licence, rating or endorsement in accordance with ATCO.AR.C.010 in particular in the following circumstances:

(1) exercising the privileges of the licence when the licence holder no longer complies with the applicable requirements of this Regulation;

(2) obtaining a student air traffic controller or an air traffic controller licence, rating, endorsement or certificate by falsification of submitted documentary evidence;

(3) falsification of the licence or certificate records;

(4) exercising the privileges of the licence, rating(s) or endorsement(s) under the influence of psychoactive substances.

(d) In cases of suspension or revocation of licences, ratings and endorsements, the competent authority shall inform the licence holder in writing of this decision and of their right of appeal in accordance with the procedures established in ATCO.AR.A.010(a)(14). The suspension or revocation of the assessor endorsement should be notified to the relevant air navigation service provider as well.

(e) The competent authority shall also suspend or revoke a licence, rating or endorsement upon written request of the licence holder.

GM1 ATCO.AR.D.005 Revocation and suspension of licences, ratings and endorsements

EXAMINATIONS AND ASSESSMENTS

Examinations and assessments conducted by an assessor, during suspension or after the revocation of his/her assessor endorsement or by an OJTI or an STDI during suspension or after revocation of his/her OJTI or STDI endorsement respectively, should be invalid.

SUBPART E — CERTIFICATION PROCEDURE FOR AIR TRAFFIC CONTROLLER TRAINING ORGANISATIONS

ATCO.AR.E.001 Application and certification procedure for training organisations

(a) Upon receiving an application for the issue of a training organisation certificate, the competent authority shall verify the training organisation's compliance with the requirements set out in Annex III.

(b) If the applicant training organisation fulfils the applicable requirements, the competent authority shall issue a certificate using the format established in Appendix 2 of Annex II.

(c) To enable an organisation to implement changes without prior competent authority's approval in accordance with ATCO.OR.B.015 and ATCO.AR.E.010(c), the competent authority shall approve the procedure submitted by the training organisation defining the scope of such changes and describing how such changes will be managed and notified.

AMC1 ATCO.AR.E.001(a) Application and certification procedure for training organisations

VERIFICATION OF COMPLIANCE

(a) The competent authority should verify the applicant's compliance through an audit of the organisation, including interviews of personnel and inspections carried out at the organisation's facilities.

(b) The competent authority should only conduct such audit after being satisfied that the application for a certificate complies with the applicable requirements.

(c) The audit should include but should not be limited to the following areas:

(1) detailed management structure, including names and qualifications of personnel required by ATCO.OR.C.010, adequacy of the organisation and management structure;

(2) adequacy of number and qualifications of personnel;

(3) safety management and compliance monitoring with applicable requirements;

(4) adequacy of the facilities with regard to the organisation's scope of training;

(5) documentation on the basis of which the certificate shall be granted (organisation documentation as required by Annex III (Part ATCO.OR), including manuals, training plans and course documentation).

(d) In case of non-compliance, the applicant should be informed in writing of the corrections required.

AMC1 ATCO.AR.E.001(b) Application and certification procedure for training organisations

ISSUE OF A CERTIFICATE

(a) The attachment to the air traffic controller training organisation's certificate should specify the privileges that the air traffic controller training organisation has obtained to provide and conduct the corresponding training.

(b) The certificate should not be issued where a level 1 finding remains open. In exceptional circumstances, finding(s), other than level 1, should be assessed and mitigated as necessary by the air traffic controller training organisation and a corrective action plan for closing the finding(s) should be approved by the competent authority prior to the issue of the certificate.

ATCO.AR.E.005 Approval of training courses and training plans

(a) The competent authority shall approve training courses and training plans developed in accordance with the requirements laid down in ATCO.OR.D.001.

(b) Following an exchange of a licence according to ATCO.A.010 the competent authority shall approve or reject the unit endorsement course established in accordance with ATCO.B.020(b) and (c) not later than six weeks after presentation of the application for the approval of the course, and ensure that the principles of non-discrimination and proportionality are respected.

ATCO.AR.E.010 Changes to the training organisations

(a) Upon receiving an application for a change that requires prior approval in accordance with ATCO.OR.B.015, the competent authority shall verify the training organisation's compliance with the requirements set out in Annex III before the issue of the approval.

The competent authority shall approve the conditions under which the organisation may operate during the change, unless the competent authority determines that the change cannot be implemented.

After having verified that the training organisation complies with the applicable requirements, the competent authority shall approve the change.

(b) Without prejudice to any additional enforcement measures in accordance with ATCO.AR.E.015, when the organisation implements changes requiring prior approval without having received the competent authority's approval as defined in point (a), the competent authority shall take immediate and adequate action.

(c) For changes not requiring prior approval, the competent authority shall approve a procedure developed by the training organisation in accordance with ATCO.OR.B.015 defining the scope of such changes and its management and notification mechanism. In the continuous oversight process the competent authority shall assess the information provided in the notification to verify whether actions taken comply with the approved procedures and applicable requirements.

AMC1 ATCO.AR.E.010 Changes to the training organisations

GENERAL

(a) The competent authority should be informed of any changes to personnel specified in Annex III (Part ATCO.OR) that may affect the certificate or the training approval attached to it.

(b) A simple management system documentation system status sheet should be maintained, which contains information on when an amendment was received by the competent authority and when it was approved.

(c) The competent authority should receive from the organisation each management system documentation amendment, including amendments that do not require prior approval by the competent authority.

(1) Where the amendment requires the competent authority’s approval, the competent authority, when satisfied, should approve in writing.

(2) Where the amendment does not require prior approval, the competent authority should acknowledge receipt of the notification in writing within 10 working days from receipt.

AMC1 ATCO.AR.E.010(a) Changes to the training organisations

CHANGES REQUIRING PRIOR APPROVAL

(a) Upon receipt of an application for a proposed change that requires prior approval, the competent authority should, in due time:

(1) assess the proposed change in relation to the training organisation’s certificate or the training approval attached or the management system of it, and the applicable requirements of Part ATCO.OR, as well as any other applicable requirements; and

(2) assess the actions proposed by the training organisation in order to show compliance;

(b) The competent authority should, in due time, verify the compliance of the training organisation and, depending on the change, examine the need for prescribing any condition for the operation of it during the change.

(c) For changes requiring prior approval, the competent authority may conduct an audit of the organisation in order to verify the training organisation's compliance with the applicable requirements.

(d) When notifying the training organisation in accordance with AMC1 ATCO.AR.E.010(c)(1), the competent authority should also inform the organisation of the right of appeal, as exists under the applicable national legislation.

GM1 ATCO.AR.E.010 Changes to the training organisations

CHANGE OF NAME OF THE TRAINING ORGANISATION

(a) Upon receipt of the application and the relevant parts of the organisation's documentation as required by Annex III (Part ATCO.OR), the competent authority should reissue the certificate.

(b) A name change alone does not require the competent authority to audit the organisation unless there is evidence that other aspects of the organisation have changed.

GM1 ATCO.AR.E.010(b) Changes to the training organisations

ADEQUATE ACTION

Adequate action by the competent authority may include suspension, limitation or revocation of the training organisation's certificate.

ATCO.AR.E.015 Findings and corrective actions

(a) The competent authority shall have a system to analyse findings for their safety significance.

(b) A level 1 finding shall be issued by the competent authority when any significant non-compliance is detected with the applicable requirements of Regulation (EC) No 216/2008 and this Regulation, with the training organisation's procedures and manuals, with the type(s) of training and/or service(s) provided or certificate(s) which lowers or seriously endangers safety and/or results in a significant degradation of the training provided.

A level 1 finding shall include, but shall not be limited to:

(1) failure to give the competent authority access to the training organisation's facilities as defined in ATCO.OR.B.025 during normal operating hours and after two written requests;

(2) obtaining or maintaining the validity of the training organisation certificate by falsification of submitted documentary evidence;

(3) evidence of malpractice or fraudulent use of the training organisation certificate; and

(4) the lack of an accountable manager.

(c) A level 2 finding shall be issued by the competent authority when any non-compliance is detected with the applicable requirements of Regulation (EC) No 216/2008 and this Regulation, with the training organisation's procedures and manuals, with the type(s) of training and/or service(s) provided or certificate(s) which could lower or endanger safety and/or could result in a degradation of the training provided.

(d) When a finding is detected during oversight or by any other means, the competent authority shall, without prejudice to any additional action required by Regulation (EC) No 216/2008 and this Regulation, communicate the finding to the training organisation in writing and request corrective action to address the non-compliance(s) identified.

(1) In the case of level 1 findings the competent authority shall take immediate and appropriate action to prohibit or limit activities, and if appropriate, it shall take action to

revoke the certificate or to limit or suspend it in whole or in part, depending upon the extent of the finding, until successful corrective action has been taken by the training organisation.

(2) In the case of level 2 findings the competent authority shall:

(i) grant the training organisation a corrective action implementation period included in an action plan appropriate to the nature of the finding; and

(ii) assess the corrective action and implementation plan proposed by the training organisation and, if the assessment concludes that they are sufficient to address the non-compliance(s), accept these.

(3) Where a training organisation fails to submit an acceptable corrective action plan, or to perform the corrective action within the time period accepted or extended by the competent authority, the finding shall be raised to a level 1 finding, and action shall be taken as laid down in point (d)(1).

(e) The competent authority shall record all findings it has raised and, where applicable, the enforcement measures it has applied, as well as all corrective actions and the date of action closure for findings.

AMC1 ATCO.AR.E.015(d)(2) Findings and corrective actions

CORRECTIVE ACTION IMPLEMENTATION PERIOD

The corrective action implementation period included in an action plan granted by the competent authority initially should not exceed three months. At the end of this period, and subject to the nature of the finding, the competent authority may extend the three-month period subject to a satisfactory corrective action plan agreed to by the competent authority.

GM1 ATCO.AR.E.015 Findings and corrective actions

LEVEL 1

For a level 1 finding, it may be necessary for the competent authority to ensure that further training by the organisation is carried out and audited by the competent authority before the activity is resumed, dependent upon the nature of the finding.

Only the certifying competent authority may take action on the certificate.

GM1 ATCO.AR.E.015(d)(2) Findings and corrective actions

CORRECTIVE ACTION IMPLEMENTATION PERIOD

The three-month period should commence from the date of the communication of the finding to the training organisation in writing and requesting corrective action to address the non-compliance(s) identified in accordance with ATCO.AR.E.015(d).

SUBPART F — SPECIFIC REQUIREMENTS RELATING TO AERO-MEDICAL CERTIFICATION

SECTION 1
GENERAL REQUIREMENTS

ATCO.AR.F.001 Aero-medical centres and aero-medical certification

By way of derogation from Subparts A, B and C, with regard to aero-medical centres (AeMCs) and aero-medical certification, the competent authority shall apply the following provisions of Annex VI to Commission Regulation (EU) No 1178/2011 (the Aircrew Regulation)[2], with the exclusion of all references to general medical practitioners (GMPs):

– Subpart ARA.GEN,

– Subpart ARA.AeMC,

– ARA.MED.120 Medical assessors,

– ARA.MED.125 Referral to the licensing authority,

– ARA.MED.150 Record keeping,

– ARA.MED.200 Procedure for the issue, revalidation, renewal or change of an AME certificate,

– ARA.MED.245 Continuing oversight,

– ARA.MED.250 Limitation, suspension or revocation of an AME certificate,

– ARA.MED.255 Enforcement measures,

– ARA.MED.315 Review of examination reports, and

– ARA.MED.325 Review procedure.

SECTION 2
DOCUMENTATION

ATCO.AR.F.005 Medical certificate

The medical certificate shall conform to the following specifications:

(a) Content:

(1) State in which the ATCO licence has been issued or applied for (I);

(2) Class of medical certificate (II);

(3) Certificate number commencing with the UN country code of the state in which the ATCO licence has been issued or applied for and followed by a code of numbers and/or letters in Arabic numerals and Latin script (III);

(4) Name of the holder (IV);

(5) Nationality of the holder (VI);

(6) Date of birth of the holder (XIV);

[2] Commission Regulation (EU) No 1178/2011 of 3 November 2011 laying down technical requirements and administrative procedures related to civil aviation aircrew pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council (OJ L 311, 25.11.2011, p. 1).

(7) Signature of the holder (VII);

(8) Limitation(s) (XIII);

(9) Expiry date of the class 3 medical certificate (IX);

(10) Date of examination;

(11) Date of last electrocardiogram;

(12) Date of last audiogram;

(13) Date of issue and signature of AME or medical assessor that issued the medical certificate (X);

(14) Seal or stamp.

(b) Material: The paper or other material used shall prevent or readily show any alterations or erasures. Any entries or deletions to the form shall be clearly authorised by the competent authority.

(c) Language: Medical certificates shall be written in the national language(s) and in English and in such a language that the competent authority deems appropriate.

(d) All dates on the medical certificate shall be written in a dd/mm/yyyy format.

AMC1 ATCO.AR.F.005 Medical certificate

STANDARD MEDICAL CERTIFICATE FORMAT

Competent authority's name and logo (English and any language(s) determined by the competent authority) EUROPEAN UNION (English only) Class 3 MEDICAL CERTIFICATE Pertaining to a Part ATCO licence (English and any language(s) determined by the competent authority) Issued in accordance with Part ATCO.MED This medical certificate complies with the ICAO Standards (English and any language(s) determined by the competent authority)	Requirements: 'European Union' to be deleted for non-EU Member States. The size of each page should be one eighth A4. English and any language(s) determined by the competent authority.

I Authority that issued or is to issue the ATCO licence: III Certificate number: IV Last and first name of holder: XIV Date of birth: (dd/mm/yyyy) VI Nationality: VII Signature of holder:	XIII Limitations: Code: Description: X Date of issue*: Signature of issuing AME/medical assessor: XI Stamp:
2	3

IX Expiry date of this certificate:	dd/mm/yyyy
Examination date: (dd/mm/yyyy)	
4	

* Date of issue is the date when the certificate is issued and signed.

ATCO.AR.F.010 AME certificate

After having verified that the AME is in compliance with the applicable requirements, the competent authority shall issue, revalidate, renew or change the AME certificate using the form established in Appendix 3 of Annex II.

ATCO.AR.F.015 AeMC certificate

After having verified that the AeMC is in compliance with the applicable requirements, the competent authority shall issue or change the AeMC certificate, using the form established in Appendix 4 of Annex II.

ATCO.AR.F.020 Aero-medical forms

The competent authority shall provide AMEs and AeMCs with the forms to be used for:

(a) the application form for a medical certificate; and

(b) the examination report form for class 3 applicants.

AMC1 ATCO.AR.F.020 Aero-medical forms

AERO-MEDICAL FORMS

The forms referred to in ATCO.AR.F.020 should reflect the information indicated in the following forms and corresponding instructions for completion.

LOGO

CIVIL AVIATION ADMINISTRATION/MEMBER STATE

APPLICATION FORM FOR A MEDICAL CERTIFICATE MEDICAL IN CONFIDENCE

Complete this page fully and in block capitals — Refer to instructions for completion.

(1) State of licence issue:	(2) Medical certificate applied for: Class 1 ☐ Class 2 ☐ Class 3 ☐		
(3) Surname:	(4) Previous surname(s):		(12) Application: Initial ☐ Revalidation/Renewal ☐
(5) Forename(s):	(6) Date of birth (dd/mm/yyyy):	(7) Sex: Male ☐ Female ☐	(13) Reference number:
(8) Place and country of birth:	(9) Nationality:		(14) Type of licence applied for:
(10) Permanent address: Country: Telephone No: Mobile No: E-mail:	(11) Postal address (if different): Country: Telephone No:		(15) Occupation (principal): (16) Employer: (17) Last aero-medical examination: Date: Place:

(18) Licence(s) held (type): Licence(s) number(s):	(19) Any limitations on licence(s)/medical certificate held: No ☐ Yes ☐ Details:	
(20) Have you ever had a medical certificate denied, suspended or revoked? No ☐ Yes ☐ Date: Country: Details:	(21) Flight time total: Hrs n/a ☐	(22) Flight time since last aero-medical examination: Hrs n/a ☐
	(23) Aircraft class/type(s) currently flown: n/a ☐	
(24) Any aviation accident or reported incident since last aero-medical examination? No ☐ n/a ☐ Yes ☐ Date: Place: Details:	(25) Type of flying intended: n/a ☐	
	(26) Current pilot activity: Single pilot ☐ Multi-pilot ☐ Current ATCO activity: ADI ☐ APS ☐ ACS ☐	
(27) Do you drink alcohol? No ☐ Yes ☐ If yes, amount	(28) Do you currently use any medication? No ☐ Yes ☐ state medication, dose, date started and why:	
(29) Do you smoke tobacco? No, never ☐ No, stopped ☐ state date: Yes ☐ state type and amount:		

General and medical history: Do you have, or have you ever had, any of the following? (Please tick). If yes, give details in the remarks section (30).

	Yes	No		Yes	No		Yes	No	**Family history of:**	Yes	No
101 Eye trouble/eye operation			112 Nose, throat or speech disorder			123 Malaria or other tropical disease			170 Heart disease		
102 Spectacles and/or contact lenses ever worn			113 Head injury or concussion			124 A positive HIV test			171 High blood pressure		
			114 Frequent or severe headaches			125 Sexually transmitted disease			172 High cholesterol level		
103 Spectacle/contact lens prescriptions change since last medical exam.			115 Dizziness or fainting spells			126 Sleep disorder/apnoea syndrome			173 Epilepsy		
			116 Unconsciousness for any reason			127 Musculoskeletal illness/impairment			174 Mental illness		
104 Hay fever, other allergy			117 Neurological disorders: stroke, epilepsy, seizure, paralysis, etc.			128 Any other illness or injury			175 Diabetes		
105 Asthma, lung disease						129 Admission to hospital			176 Tuberculosis		
106 Heart or vascular trouble			118 Psychological/psychiatric trouble of any sort			130 Visit to medical practitioner since last aero-medical examination			177 Allergy/asthma/eczema		
107 High or low blood pressure									178 Inherited disorders		
108 Kidney stone or blood in urine			119 Alcohol/drug/substance abuse			131 Refusal of life insurance			179 Glaucoma		
109 Diabetes, hormone disorder			120 Attempted suicide			132 Refusal of pilot/ATCO licence					
110 Stomach, liver or intestinal trouble			121 Motion sickness requiring medication			133 Medical rejection from or for military service			**Females only:** 150 Gynaecological, menstrual problems		
111 Deafness, ear disorder			122 Anaemia/sickle cell trait/other blood disorders			134 Award of pension or compensation for injury or illness			151 Are you pregnant?		

(30) **Remarks:** If previously reported and no change since, so state.

(31) **Declaration:** I hereby declare that I have carefully considered the statements made above and to the best of my belief they are complete and correct and that I have not withheld any relevant information or made any misleading statements. I understand that if I have made any false or misleading statements in connection with this application, or fail to release the supporting medical information, the licensing authority may refuse to grant me a medical certificate or may withdraw any medical certificate granted, without prejudice to any other action applicable under national law.

CONSENT TO RELEASE OF MEDICAL INFORMATION: I hereby authorise the release of all information contained in this report and any or all attachments to the AME and, where necessary, to the medical assessor of the licensing authority, recognising that these documents or electronically stored data are to be used for completion of a medical assessment and will become and remain the property of the licensing authority, providing that I or my physician may have access to them according to national law. Medical confidentiality will be respected at all times.

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Date Signature of applicant Signature of AME/(medical assessor)

INSTRUCTIONS FOR COMPLETION OF THE APPLICATION FORM FOR A MEDICAL CERTIFICATE

This application form and all attached report forms will be transmitted to the licensing authority. Medical confidentiality shall be respected at all times.

The applicant should personally complete, in full, all questions (sections) on the application form. Writing should be legible and in block capitals, using a ball-point pen. Completion of this form by typing/printing is also acceptable. If more space is required to answer any questions, a plain sheet of paper should be used, bearing the applicant's name and signature, and the date of signing. The following numbered instructions apply to the numbered headings on the application form for a medical certificate.

Failure to complete the application form in full, or to write legibly, may result in non-acceptance of the application form. The making of false or misleading statements or the withholding of relevant information in respect of this application may result in criminal prosecution, denial of this application and/or withdrawal of any medical certificate(s) granted.

1. LICENSING AUTHORITY:
State name of country this application is to be forwarded to.

2. MEDICAL CERTIFICATE APPLIED FOR:
Tick appropriate box.
Class 1: Professional Pilot
Class 2: Private Pilot
Class 3: Air Traffic Controller

3. SURNAME:
State surname/family name.

4. PREVIOUS SURNAME(S):
If your surname or family name has changed for any reason, state previous name(s).

5. FORENAME(S):
State first and middle names (maximum three).

6. DATE OF BIRTH:
Specify in order dd/mm/yyyy.

7. SEX:
Tick appropriate box.

8. PLACE AND COUNTRY OF BIRTH:
State town and country of birth.

9. NATIONALITY:
State name of country of citizenship.

10. PERMANENT ADDRESS:
State permanent postal address and country. Enter telephone area code as well as telephone number.

11. POSTAL ADDRESS (IF DIFFERENT):
If different from permanent address, state full current postal address including telephone number and area code. If the same, enter 'SAME'.

12. APPLICATION:
Tick appropriate box.

13. REFERENCE NUMBER:
State reference number allocated to you by the licensing authority.
Initial applicants enter 'NONE'.

14. TYPE OF LICENCE APPLIED FOR:
State type of licence applied for from the following list:
- Aeroplane Transport Pilot Licence
- Multi-Pilot Licence
- Commercial Pilot Licence/Instrument Rating
- Commercial Pilot Licence
- Air Traffic Controller Licence
- Private Pilot Licence/Instrument Rating
- Private Pilot Licence
- Sailplane Pilot Licence
- Balloon Pilot Licence
- and whether Fixed Wing/Rotary Wing/Both

15. OCCUPATION (PRINCIPAL):
Indicate your principal employment.

16. EMPLOYER:
If principal occupation is pilot/ATCO, then state employer's name or if self-employed as a pilot, state 'self'.

17. LAST APPLICATION FOR A MEDICAL CERTIFICATE:
State date (day, month, year) and place (town, country).
Initial applicants state 'NONE'.

18. LICENCE(S) HELD (TYPE):
State type of licence(s) held.
Enter licence number and State of issue.
If no licences are held, state 'NONE'.

19. ANY LIMITATIONS ON THE LICENCE(S)/MEDICAL CERTIFICATE:
Tick appropriate box and give details of any limitations on your licence(s)/medical certificate, e.g. vision, colour vision, safety pilot, etc.

20. MEDICAL CERTIFICATE DENIAL, SUSPENSION OR REVOCATION:
Tick 'YES' box if you have ever had a medical certificate denied, suspended or revoked, even if only temporary.
If 'YES', state date (dd/mm/yyyy) and country where it occurred.

21. FLIGHT TIME TOTAL:
State total number of hours flown or, for ATCO's tick n/a box.

22. FLIGHT TIME SINCE LAST MEDICAL:
State number of hours flown since your last aero-medical examination or, for ATCO's tick n/a box.

23. AIRCRAFT CLASS/TYPE(S) CURRENTLY FLOWN:
State name of principal aircraft flown, e.g. Boeing 737, Cessna 150, etc. or, for ATCO's tick n/a box.

24. ANY AVIATION ACCIDENT OR REPORTED INCIDENT SINCE LAST AERO-MEDICAL EXAMINATION:
If 'YES' box ticked, state date (dd/mm/yyyy) and country of accident/incident.

25. TYPE OF FLYING INTENDED:
State whether airline, charter, single pilot, commercial air transport, carrying passengers, agriculture, pleasure, etc., or, for ATCO's tick n/a box.

26. CURRENT PILOT/ATCO ACTIVITY:
Tick appropriate box to indicate whether you fly as the SOLE pilot or not or, for ATCO's whether you operate as tower, radar or other.

27. DO YOU DRINK ALCOHOL?
Tick applicable box. If yes, state weekly alcohol consumption, e.g. 2 litres beer.

28. DO YOU CURRENTLY USE ANY MEDICATION?
If 'YES', give full details — name, how much you take and when, etc.
Include any non-prescription medication.

29. DO YOU SMOKE TOBACCO?
Tick applicable box. Current smokers state type (cigarettes, cigars, pipe) and amount (e.g. 2 cigars daily; pipe — 1 oz. weekly).

GENERAL AND MEDICAL HISTORY

All items under this heading from number 101 to 179 inclusive should have the answer 'YES' or 'NO' ticked. You should tick 'YES' if you have ever had the condition in your life and describe the condition and approximate date in the (30) remarks section. All questions asked are medically important even though this may not be readily apparent.

Items numbered 170 to 179 relate to immediate family history, whereas items numbered 150 to 151 should be answered by female applicants only.

If information has been reported on a previous application form for a medical certificate and there has been no change in your condition, you may state 'Previously reported; no change since'. However, you should still tick 'YES' to the condition.

Do not report occasional common illnesses such as colds.

31. DECLARATION AND CONSENT TO OBTAINING AND RELEASING INFORMATION:
Do not sign or date these declarations until indicated to do so by the AME who will act as witness and sign accordingly.

AERO-MEDICAL EXAMINATION REPORT FORM FOR CLASS 1, CLASS 2 & CLASS 3 APPLICANTS

(201) Examination category	(202) Height (cm)	(203) Weight (kg)	(204) Colour eye	(205) Colour hair	(206) Blood pressure — seated (mmHg)		(207) Pulse — resting	
Initial ☐							Rate (bpm)	Rhythm: regular ☐ irregular ☐
Revalidation ☐ Renewal ☐					Systolic	Diastolic		
Referral ☐								

Clinical exam: Check each item	Normal	Abnormal		Normal	Abnormal
(208) Head, face, neck, scalp			(218) Abdomen, hernia, liver, spleen		
(209) Mouth, throat, teeth, voice, speech			(219) Anus, rectum		
(210) Nose, sinuses			(220) Genito-urinary system		
(211) Ears, drums, eardrum motility			(221) Endocrine system		
(212) Eyes — orbit & adnexa; visual fields			(222) Upper & lower limbs, joints		
(213) Eyes — pupils and optic fundi			(223) Spine, other musculoskeletal		
(214) Eyes — ocular motility; nystagmus			(224) Neurologic — reflexes, etc.		
(215) Lungs, chest, breasts			(225) Psychiatric		
(216) Heart			(226) Skin, identifying marks and lymphatics		
(217) Vascular system			(227) General systemic		
(228) **Notes:** Describe every abnormal finding. Enter applicable item number before each comment.					

Visual acuity

(229) *Distant vision*

	Uncorrected		Spectacles	Contact lenses
Right eye		Corr. to		
Left eye		Corr. to		
Both eyes		Corr. to		

(230) *Intermediate vision*

	Uncorrected		Corrected	
	Yes	No	Yes	No
Right eye				
Left eye				
Both eyes				

(231) *Near vision*

	Uncorrected		Corrected	
	Yes	No	Yes	No
Right eye				
Left eye				
Both eyes				

(232) **Spectacles**

Yes ☐ No ☐

Type:

Refraction	Sph	Cyl	Axis	Add
Right eye				
Left eye				

(233) **Contact lenses**

Yes ☐ No ☐

Type:

(313) **Colour vision** Normal ☐ Abnormal ☐

Colour vision testing method/s:

Results:

(234) **Hearing** (when 239/241 not performed)

	Right ear	Left ear
Conversational voice test (2m) with back turned to examiner	Yes ☐ No ☐	Yes ☐ No ☐

Audiometry

Hz	500	1000	2000	3000
Right				
Left				

(236) **Pulmonary function**

FEV1/FVC _____ %

Normal ☐ Abnormal ☐

(237) **Haemoglobin**

_____ _____ (***unit)***

Normal ☐ Abnormal ☐

(235) **Urinalysis** Normal ☐ Abnormal ☐

Glucose	Protein	Blood	Other

Accompanying reports

	Not performed	Normal	Abnormal/Comment
(238) ECG			
(239) Audiogram			
(240) Ophthalmology			
(241) ORL (ENT)			
(242) Blood lipids			
(243) Pulmonary function			
(244) Other (what?)			

(247) **AME recommendation:**

Name of applicant: Date of birth: Reference number:

☐ Fit for class: _____

☐ Medical certificate issued by undersigned (copy attached) for class: _____

☐ Unfit for class: _____

☐ Deferred for further evaluation. If yes, why and to whom?

(248) **Comments, limitations**

(249) **AME declaration:**

I hereby certify that I/my AME group have personally examined the applicant named on this aero-medical examination report and that this report with any attachment embodies my findings completely and correctly.

(250) Place and date:	AME name and address:	AME certificate No:
AME signature:	E-mail: Telephone No: Telefax No:	

INSTRUCTIONS FOR COMPLETION OF THE AERO-MEDICAL EXAMINATION REPORT FORMS

The AME performing the aero-medical examination should verify the identity of the applicant.

All questions (sections) on the aero-medical examination report form should be completed in full. If an otorhinolaryngology examination report form is attached, then questions 209, 210, 211, and 234 may be omitted. If an ophthalmology examination report form is attached, then questions 212, 213, 214, 229, 230, 231, 232, and 233 may be omitted.

Writing should be legible and in block capitals using a ball-point pen. Completion of this form by typing/printing is also acceptable. If more space is required to answer any question, a plain sheet of paper should be used, bearing the applicant's name, the AME's name and signature, and the date of signing. The following numbered instructions apply to the numbered headings on the aero-medical examination report form.

Failure to complete the aero-medical examination report form in full, as required, or to write legibly, may result in non-acceptance of the application in total and may lead to withdrawal of any medical certificate issued. The making of false or misleading statements or the withholding of relevant information by an AME may result in criminal prosecution, denial of an application or withdrawal of any medical certificate(s) granted.

201 EXAMINATION CATEGORY — Tick appropriate box.

Initial — Initial examination for either class 1, 2 or 3; also initial examination for upgrading from class 2 to 1 (notate 'upgrading' in box 248).

Renewal/Revalidation —Subsequent ROUTINE examinations.

202 HEIGHT — Measure height, without shoes, in centimetres to nearest cm.

203 WEIGHT — Measure weight, in indoor clothes, in kilograms to nearest kg.

204 COLOUR EYE — State colour of applicant's eyes from the following list: brown, blue, green, hazel, grey, multi.

205 COLOUR HAIR — State colour of applicant's hair from the following list: brown, black, red, fair, bald.

206 BLOOD PRESSURE — Blood pressure readings should be recorded as Phase 1 for systolic pressure and Phase 5 for diastolic pressure. The applicant should be seated and rested. Recordings in mm Hg.

207 PULSE (RESTING) — The pulse rate should be recorded in beats per minute and the rhythm should be recorded as regular or irregular. Further comments if necessary may be written in section 228, 248 or separately.

208 to 227 inclusive constitute the general clinical examination, and each of the boxes should be marked (with a tick) as normal or abnormal.

208 HEAD, FACE, NECK, SCALP — To include appearance, range of neck and facial movements, symmetry, etc.

209 MOUTH, THROAT, TEETH, VOICE, SPEECH — To include voice and speech quality and appearance of buccal cavity, palate motility, tonsillar area, pharynx and also gums, teeth and tongue.

210 NOSE, SINUSES — To include appearance and any evidence of nasal obstruction or sinus tenderness on palpation.

211 EARS, DRUMS, EARDRUM MOTILITY — To include otoscopy of external ear, canal, tympanic membrane. Eardrum motility by valsalva manoeuvre or by pneumatic otoscopy.

212 EYES — ORBIT AND ADNEXA; VISUAL FIELDS — To include appearance, position and movement of eyes and their surrounding structures in general, including eyelids and conjunctiva. Visual fields check by campimetry, perimetry or confrontation.

213 EYES — PUPILS AND OPTIC FUNDI — To include appearance, size, reflexes, red reflex and fundoscopy. Special note of corneal scars.

214 EYES — OCULAR MOTILITY, NYSTAGMUS — To include range of movement of eyes in all directions; symmetry of movement of both eyes; ocular muscle balance; convergence; accommodation; signs of nystagmus.

215 LUNGS, CHEST, BREASTS — To include inspection of chest for deformities, operation scars, abnormality of respiratory movement, auscultation of breath sounds. Physical examination of female applicant's breasts should only be performed with informed consent.

216 HEART — To include apical heartbeat, position, auscultation for murmurs, carotid bruits, palpation for trills.

217 VASCULAR SYSTEM — To include examination for varicose veins, character and feel of pulse, peripheral pulses, evidence of peripheral circulatory disease.

218 ABDOMEN, HERNIA, LIVER, SPLEEN — To include inspection of abdomen; palpation of internal organs; check for inquinal hernias in particular.

219 ANUS, RECTUM — Examination only with informed consent.

220 GENITO-URINARY SYSTEM — To include renal palpation; inspection palpation male/female reproductive organs only with informed consent.

221 ENDOCRINE SYSTEM — To include inspection, palpation for evidence of hormonal abnormalities/imbalance; thyroid gland.

222 UPPER AND LOWER LIMBS, JOINTS — To include full range of movements of joints and limbs, any deformities, weakness or loss. Evidence of arthritis.

223 SPINE, OTHER MUSCULOSKELETAL — To include range of movements, abnormalities of joints.

224 NEUROLOGIC — REFLEXES, ETC. To include reflexes, sensation, power, vestibular system — balance, romberg test, etc.

225 PSYCHIATRIC — To include appearance, appropriate mood/thought, unusual behaviour.

226 SKIN, IDENTIFYING MARKS AND LYMPHATICS — To include inspection of skin; inspection, palpation for lymphadenopathy, etc. Briefly describe scars, tattoos, birthmarks, etc., which could be used for identification purposes.

227 GENERAL SYSTEMIC — All other areas, systems and nutritional status.

228 NOTES — Any notes, comments or abnormalities to be described — extra notes if required on separate sheet of paper, signed and dated.

229 DISTANT VISION — Each eye to be examined separately and then both together. First without correction, then with spectacles (if used) and lastly with contact lenses, if used. Record visual acuity in appropriate boxes. Visual acuity to be tested with the appropriate chart for the distance.

230 INTERMEDIATE VISION — Each eye to be examined separately and then both together. First without correction, then with spectacles, if used, and lastly with contact lenses, if used. Record visual acuity in appropriate boxes (Yes/No).

231 NEAR VISION — Each eye to be examined separately and then both together. First without correction, then with spectacles if used and lastly with contact lenses, if used. Record visual acuity in appropriate boxes (Yes/No).

Note: Bifocal contact lenses and contact lenses correcting for near vision only are not acceptable.

232 SPECTACLES — Tick appropriate box signifying if spectacles are or are not worn by applicant. If used, state type of lens and frame and use-distance.

233 CONTACT LENSES — Tick appropriate box signifying if contact lenses are or are not worn. If worn, state type from the following list; hard, soft, gas-permeable or disposable.

313 COLOUR VISION — Tick appropriate box signifying if applicant is a normal trichromat or not. Indicate the colour vision testing methodology used and provide the results.

234 HEARING — Tick appropriate box to indicate hearing level ability as tested separately in each ear at 2 m.

235 URINALYSIS — State whether result of urinalysis is normal or not by ticking appropriate box. If no abnormal constituents, state NIL in each appropriate box.

236 PULMONARY FUNCTION — When required or on indication, state actual FEV1/FVC value obtained in % and state if normal or not with reference to height, age, sex and race.

237 HAEMOGLOBIN — Enter actual haemoglobin test result and state units used. Then state whether normal value or not, by ticking appropriate box.

238 to 244 inclusive: ACCOMPANYING REPORTS — One box opposite each of these sections must be ticked. If the test is not required and has not been performed, then tick the NOT PERFORMED box. If the test has been performed (whether required or on indication) complete the normal or abnormal box as appropriate. In the case of question 244, the number of other accompanying reports must be stated.

247 AME RECOMMENDATION — The applicant's name, date of birth and reference number, should be entered here in block capitals. The applicable class of medical certificate should be indicated by a tick in the appropriate box. If a fit assessment is recommended and a medical certificate has been issued, this should be indicated in the appropriate box. An applicant may be recommended as fit for a lower class of medical certificate (e.g. class 2), but also be deferred or recommended as unfit for a higher class of medical certificate (e.g. class 1). If an unfit recommendation is made, applicable Part MED/Part ATCO.MED paragraph references should be entered. If an applicant is deferred for further evaluation, the reason and the specialist or licensing authority to whom the applicant is referred should be indicated.

248 COMMENTS, LIMITATIONS, ETC. — The AME's findings and assessment of any abnormality in the history or examination, should be entered here. The AME should also state any limitation required.

249 AME DETAILS — The AME should sign the declaration, complete his/her name and address in block capitals, contact details and lastly stamp the relevant section with his/her designated AME stamp incorporating his/her AME number.

250 PLACE AND DATE — The place (town or city) and the date of the aero-medical examination should be entered here. The date of examination is the date of the general examination and not the date of finalisation of the form. If the aero-medical examination report is finalised on a different date, the date of finalisation should be entered in section 248 as 'Report finalised on …'.

OPHTHALMOLOGY EXAMINATION REPORT FORM

Complete this page fully and in block capitals — Refer to instructions for completion. MEDICAL IN CONFIDENCE

Applicant's details

(1) Licensing authority:	(2) Medical certificate applied for: Class 1 ☐ Class 2 ☐ Class 3 ☐		
(3) Surname:	(4) Previous surname(s):		(12) Application: Initial ☐ Revalidation/Renewal ☐
(5) Forename(s):	(6) Date of birth:	(7) Sex: Male ☐ Female ☐	(13) Reference number:

(301) **Consent to release of medical information:** I hereby authorise the release of all information contained in this report and any or all attachments to the AME and, where necessary, to the medical assessor of the licensing authority, recognising that these documents or electronically stored data, are to be used for completion of a medical assessment and will become and remain the property of the licensing authority, providing that I or my physician may have access to them according to national law. Medical confidentiality will be respected at all times.

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Date Signature of applicant Signature of AME

(302) Examination category:

Initial ☐
Revalidation ☐
Renewal ☐
Referral ☐

(303) Ophthalmological history:

Clinical examination

Check each item		Normal	Abnormal
(304) Eyes, external & eyelids			
(305) Eyes, Exterior (slit lamp, ophth.)			
(306) Eye position and motility			
(307) Visual fields			
(308) Pupillary reflexes			
(309) Fundi (Ophthalmoscopy)			
(310) Convergence	cm		
(311) Accommodation	D		

(312) *Ocular muscle balance* (in prisme dioptres)

Distant at 5m/6m	Near at 30–50 cm
Ortho	Ortho
Eso	Eso
Exo	Exo
Hyper	Hyper
Cyclo	Cyclo
Tropia Yes No	Phoria Yes No
Fusional reserve testing Not performed Normal Abnormal	

(313) *Colour vision*

Colour vision testing method/s:
Results:
Normal trichromat Yes ☐ No ☐

Visual acuity

(314) *Distant vision*	Uncorrected		Spectacles	Contact lenses
Right eye		Corrected to		
Left eye		Corrected to		
Both eyes		Corrected to		

(315) *Intermediate vision*	Uncorrected		Spectacles	Contact lenses
Right eye		Corrected to		
Left eye		Corrected to		
Both eyes		Corrected to		

(316) *Near vision*	Uncorrected		Spectacles	Contact lenses
Right eye		Corrected to		
Left eye		Corrected to		
Both eyes		Corrected to		

(317) *Refraction*	Sph	Cylinder	Axis	Near (add)
Right eye				
Left eye				

Actual refraction examined Spectacles prescription based

(318) *Spectacles*

Yes ☐ No ☐
Type:

(319) *Contact lenses*

Yes ☐ No ☐
Type:

(320) *Intra-ocular pressure*

Right (mmHg)	Left (mmHg)
Method	Normal ☐ Abnormal ☐

(321) **Ophthalmological remarks and recommendation:**

(322) **Examiner's declaration:**

I hereby certify that I/my AME group have personally examined the applicant named on this medical examination report and that this report with any attachment embodies my findings completely and correctly.

(323) Place and date:	Ophth. examiner's name and address: (block capitals)	AME or specialist stamp with No:
AME or specialist signature:	E-mail: Telephone No: Telefax No:	

INSTRUCTIONS FOR COMPLETION OF THE OPHTHALMOLOGY EXAMINATION REPORT FORM

Writing should be legible and in block capitals using a ball-point pen. Completion of this form by typing or printing is also acceptable. If more space is required to answer any question, a plain sheet of paper should be used, bearing the applicant's name, the name and signature of the AME or ophthalmology specialist performing the examination and the date of signing. The following numbered instructions apply to the numbered headings on the ophthalmology examination report form.

Failure to complete the medical examination report form in full, as required, or to write legibly may result in non-acceptance of the application in total and may lead to withdrawal of any medical certificate issued. The making of false or misleading statements or the withholding of relevant information by an examiner may result in criminal prosecution, denial of an application or withdrawal of any medical certificate granted.

The AME or ophthalmology specialist performing the examination should verify the identity of the applicant. The applicant should then be requested to complete the sections 1, 2, 3, 4, 5, 6, 7, 12 and 13 on the form and then sign and date the consent to release of medical information (section 301) with the examiner countersigning as witness.

302 EXAMINATION CATEGORY — Tick appropriate box.

Initial — Initial examination for either class 1 or 2 or 3; also initial examination for upgrading from class 2 to 1 (notate 'upgrading' in section 303).

Renewal/Revalidation — Subsequent comprehensive ophthalmological examinations (due to refractive error).

Special referral — NON-ROUTINE examination for assessment of an ophthalmological symptom or finding.

303 OPHTHALMOLOGICAL HISTORY — Detail here any history of note or reasons for special referral.

304 to 309 inclusive: CLINICAL EXAMINATION — These sections together cover the general clinical examination and each of the sections should be marked (with a tick) as normal or abnormal. Any abnormal findings or comments on findings should be entered in section 321.

310 CONVERGENCE — Enter near point of convergence in cm, as measured using RAF near point rule or equivalent. Tick whether normal or abnormal. Any abnormal findings or comments on findings should be entered in section 321.

311 ACCOMMODATION — Enter measurement recorded in dioptres using RAF near point rule or equivalent. Tick whether normal or abnormal. Any abnormal findings or comments on findings should be entered in section 321.

312 OCULAR MUSCLE BALANCE — Ocular muscle balance is tested at distant 5 or 6 m and near at 30–50 cm and results recorded. Presence of tropia or phoria must be entered accordingly and also whether fusional reserve testing was NOT performed and if performed whether normal or not.

313 COLOUR VISION —Tick appropriate box signifying if applicant is a normal trichromat or not. Indicate the colour vision testing methodology used and provide results.

314–316 VISUAL ACUITY TESTING AT 5 m/6m, 1m and 30–50cm — Record actual visual acuity obtained in appropriate boxes. If correction not worn nor required, put line through corrected vision boxes. Distant visual acuity to be tested at either 5 m or 6 m with the appropriate chart for that distance.

317 REFRACTION — Record results of refraction. Indicate also whether for class 2 applicants, refraction details are based upon spectacle prescription.

318 SPECTACLES — Tick appropriate box signifying if spectacles are or are not worn by applicant. If used, state whether unifocal, bifocal, varifocal or look-over.

319 CONTACT LENSES — Tick appropriate box signifying if contact lenses are or are not worn. If worn, state type from the following list; hard, soft, gas-permeable, disposable.

320 INTRA-OCULAR PRESSURE — Enter intra-ocular pressure recorded for right and left eyes and indicate whether normal or not. Also indicate method used —applanation, air, etc.

321 OPHTHALMOLOGICAL REMARKS AND RECOMMENDATION — Enter here all remarks, abnormal findings and assessment results. Also enter any limitations recommended. If there is any doubt about findings or recommendations, the examiner may contact the medical assessor for advice before finalising the report form.

322 OPHTHALMOLOGY EXAMINER'S DETAILS — The ophthalmology examiner must sign the declaration, complete his/her name and address in block capitals, contact details and lastly stamp the report with his/her designated stamp incorporating his/her AME or specialist number.

323 PLACE AND DATE — Enter the place (town or city) and the date of examination. The date of examination is the date of the clinical examination and not the date of finalisation of form. If the ophthalmology examination report is finalised on a different date, enter date of finalisation on section 321 as 'Report finalised on...'.

OTORHINOLARYNGOLOGY EXAMINATION REPORT FORM

Complete this page fully and in block capitals — Refer to instructions for completion. MEDICAL IN CONFIDENCE

Applicant's details

(1) Licensing authority:	(2) Medical certificate applied for: class 1 ☐ class 2 ☐ class 3 ☐		
(3) Surname:	(4) Previous surname(s):		(12) Application: Initial ☐ Revalidation/Renewal ☐
(5) Forename(s):	(6) Date of birth:	(7) Sex: Male ☐ Female ☐	(13) Reference number:

(401) **Consent to release of medical information:** I hereby authorise the release of all information contained in this report and any or all attachments to the AME and, where necessary, to the medical assessor of the licensing authority, recognising that these documents, or any electronically stored data, are to be used for completion of a medical assessment and will become and remain the property of the licensing authority, providing that I or my physician may have access to them according to national law. Medical confidentiality will be respected at all times.

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Date Signature of applicant Signature of AME

(402) Examination category:

Initial ☐
Revalidation/renewal ☐
Referral ☐

(403) Otorhinolaryngological history:

Clinical examination

Check each item	Normal	Abnormal
(404) Head, face, neck, scalp		
(405) Buccal cavity, teeth		
(406) Pharynx		
(407) Nasal passages and naso-pharynx (incl. anterior rhinoscopy)		
(408) Vestibular system incl. Romberg test		
(409) Speech/voice		
(410) Sinuses		
(411) Ext. acoustic meati, tympanic membranes		
(412) Pneumatic otoscopy		
(413) Impedance tympanometry including Valsalva manoeuvre (initial only)		

(419) *Pure tone audiometry*

dB HL (hearing level)

Hz	Right ear	Left ear
250		
500		
1000		
2000		
3000		
4000		
6000		
8000		

(420) *Audiogram*

o = Right – – – = Air
x = Left ..... = Bone

dB/HL	Hz 250	500	1000	2000	3000	4000	6000	8000
–10								
0								
10								
20								
30								
40								
50								
60								
70								
80								
90								
100								
110								
120								

Additional testing (if indicated)	Not performed	Normal	Abnormal
(414) Speech audiometry			
(415) Posterior rhinoscopy			
(416) EOG; spontaneous and positional nystagmus			
(417) Differential caloric test or vestibular autorotation test			
(418) Mirror or fibre laryngoscopy			

(421) **Otorhinolaryngology remarks and recommendation:**

(422) **Examiner's declaration:**

I hereby certify that I/my AME group have personally examined the applicant named on this medical examination report and that this report with any attachment embodies my findings completely and correctly.

(423) Place and date:	ORL examiner's name and address: (block capitals)	AME or specialist stamp with No:
AME or specialist signature:	E-mail: Telephone No: Telefax No:	

INSTRUCTIONS FOR COMPLETION OF THE OTORHINOLARYNGOLOGY EXAMINATION REPORT FORM

Writing should be legible and in block capitals using a ball-point pen. Completion of this form by typing or printing is also acceptable. If more space is required to answer any question, a plain sheet of paper should be used, bearing the applicant's name, the name and signature of the AME or otorhinolaryngology specialist performing the examination and the date of signing. The following numbered instructions apply to the numbered headings on the otorhinolaryngology examination report form.

Failure to complete the medical examination report form in full, as required, or to write legibly may result in non-acceptance of the application in total and may lead to withdrawal of any medical certificate issued. The making of false or misleading statements or the withholding of relevant information by an examiner may result in criminal prosecution, denial of an application or withdrawal of any medical certificate granted.

The AME or otorhinolaryngology specialist performing the examination should verify the identity of the applicant. The applicant should then be requested to complete the sections 1, 2, 3, 4, 5, 6, 7, 12 and 13 on the form and then sign and date the consent to release of medical information (section 401) with the examiner countersigning as witness.

402 EXAMINATION CATEGORY — Tick appropriate box.

Initial — Initial examination for class 1 or class 3; also initial examination for upgrading from class 2 to 1 or 3 (notate 'upgrading' in section 403).

Referral — NON-ROUTINE examination for assessment of an ORL symptom or finding.

403 OTORHINOLARYNGOLOGICAL HISTORY — Detail here any history of note or reasons for referral.

404–413 inclusive: CLINICAL EXAMINATION — These sections together cover the general clinical examination and each of the sections should be marked (with a tick) as normal or abnormal. Any abnormal findings or comments on findings should be entered in section 421.

414–418 inclusive: ADDITIONAL TESTING — These tests are only required to be performed if indicated by history or clinical findings and are not routinely required. For each test one of the boxes must be completed — if the test is not performed then tick that box — if the test has been performed then tick the appropriate box for a normal or abnormal result. All remarks and abnormal findings should be entered in section 421.

419 PURE TONE AUDIOMETRY — Complete figures for dB HL (hearing level) in each ear at all listed frequencies.

420 AUDIOGRAM — Complete audiogram from figures as listed in section 419.

421 OTORHINOLARYNGOLOGY REMARKS AND RECOMMENDATION — Enter here all remarks, abnormal findings and assessment results. Also enter any limitations recommended. If there is any doubt about findings or recommendations the examiner may contact the medical assessor for advice before finalising the report form.

422 OTORHINOLARYNGOLOGY EXAMINER'S DETAILS — The otorhinolaryngology examiner must sign the declaration, complete his/her name and address in block capitals, contact details and lastly stamp the report with his/her designated stamp incorporating his/her AME or specialist number.

423 PLACE AND DATE — Enter the place (town or city) and the date of examination. The date of examination is the date of the clinical examination and not the date of finalisation of form. If the ORL examination report is finalised on a different date, enter date of finalisation in section 421 as 'Report finalised on...'.

APPENDIX 1 OF ANNEX II
FORMAT FOR LICENCE

AIR TRAFFIC CONTROLLER LICENCE

The air traffic controller licence issued in accordance with this Regulation shall conform to the following specifications:

(a) Content. The item number shall always be printed in association with the item heading. Items I to XI are the 'permanent' items, and items XII to XIV are the 'variable' items which may appear on a separate or detachable part of the main form as prescribed below. Any separate or detachable part shall be clearly identifiable as part of the licence.

1. Permanent items:

(I) State of licence issue;

(II) title of licence;

(III) serial number of the licence with the United Nations (UN) country code of the State of licence issue and followed by '(Student) ATCO Licence' and a code of numbers and/or letters in Arabic numerals and in Latin script;

(IV) name of holder in full (in Latin script, even if the script of the national language(s) is other than Latin);

(IVa) date of birth;

(V) holder's address, if required by the competent authority;

(VI) nationality of holder;

(VII) signature of holder;

(VIII) competent authority;

(IX) certification of validity and authorisation for the privileges granted, including the dates when they were first issued;

(X) signature of officer issuing the licence and the date of such issue;

(XI) seal or stamp of the competent authority.

2. Variable items:

(XII) ratings and endorsements with expiry dates;

(XIII) remarks: language proficiency endorsements; and

(XIV) any other details required by the competent authority.

(b) The licence shall be accompanied by a valid medical certificate, except when only STDI privileges are exercised.

(c) Material. First quality paper and/or other suitable material, including plastic cards, shall be used to prevent or readily show any alterations or erasures. Any entries or deletions in the form will be clearly authorised by the competent authority.

(d) Language. Licences shall be written in English and, if required by Member States, in national language(s) and other languages as deemed appropriate.

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Competent authority's name and logo (English and any language(s) determined by the competent authority)	Requirements ([1])
EUROPEAN UNION (English only)	'European Union' to be deleted for non-EU Member States.
(STUDENT) AIR TRAFFIC CONTROLLER LICENCE	The size of each page shall be one-eighth A4.
[English and any language(s) determined by the competent authority] Issued in accordance with Commission Regulation (EU) 2015/340 This licence complies with the ICAO Standards [English and any language(s) determined by the competent authority]	
EASA Form 152 — Issue 1	

([1]) *Requirements*:
The pages referring to the instructions on how the (Student) ATCO Licence has to be filled in are intended for use by the competent authority or the assessor specifically authorised to revalidate or renew the unit endorsements. Initial issues of ratings, rating endorsements, language endorsements, instructor and assessor endorsement will always be entered by the competent authority. Revalidation or renewal of unit endorsements will be entered by the competent authority or by the authorised assessors.

I	**State of issue:**	Requirements:
II	**Title of licence:**	
III	**Serial number of the licence:**	The serial number of the licence will always start with the UN country code of the State of the licence issue followed by '(Student) ATCO Licence'.
IV	**Name of the holder in full:**	
IVa	**Date of birth:**	Standard date format is to be used, i.e. day/month/year in full (e.g., 31.01.2010)
XIV	**Place of birth:**	
V	**Holder's address, if desired by the competent authority:** Street, town, area, postal code	
VI	**Nationality of holder:**	Indicated by the UN country code of the State
VII	**Signature of holder:**	
VIII	**Competent Authority:**	
X	**Signature of officer issuing the licence and date of issue**	
XI	**Seal or stamp of issuing competent authority**	

<table>
<tr>
<td>IX</td>
<td>
Validity of privileges:
The holder is entitled to exercise the privileges of the following rating(s) and rating endorsement(s), when validated:
<table>
<tr><th>Rating(s)</th><th>Date of first issue</th></tr>
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<tr><th>Rating endorsement(s)</th><th>Date of first issue</th></tr>
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Requirements:

English and any language(s) determined by the competent authority.

The date of first issue of a rating and/or rating endorsement shall be the date of successful completion of the training relevant to that rating and/or rating endorsement.
</td>
</tr>
</table>

XIIa Ratings and endorsements with expiry dates

The holder is entitled to exercise the privileges of the following rating(s) and rating endorsement(s) at the air traffic service unit(s) for which current unit endorsement(s) is (are) held as detailed below, only if the holder has a valid medical certificate:

Unit (ICAO indicator) (*)	Sector/ Position (*)	Rating/ Endorsement	Expiry date (*)	Signature/stamp of the authority or licence number and signature of the assessor

(*) Not applicable for Student ATCO Licence.

Page 5

XIIb	**Other endorsements:** *The holder is entitled to exercise the privileges of the following endorsement(s)* *OJTI /STDI /Assessor endorsement* | *Expiry date* | | | | | |	Requirements: N/A

XIII	**Remarks:** Language proficiency endorsement(s): [language(s)/level/expiry date]	Language proficiency endorsement(s), level and expiry date shall be included. All additional licensing information to be entered here.

Abbreviations

Air traffic controller ratings		Requirements: N/A
ADV	Aerodrome Control Visual	
ADI	Aerodrome Control Instrument	
APP	Approach Control Procedural	
APS	Approach Control Surveillance	
ACP	Area Control Procedural	
ACS	Area Control Surveillance	
Rating endorsements		
AIR	Air Control	
GMC	Ground Movement Control	
TWR	Tower Control	
GMS	Ground Movement Surveillance	
RAD	Aerodrome Radar Control	
PAR	Precision Approach Radar	
SRA	Surveillance Radar Approach	
TCL	Terminal Control	
OCN	Oceanic Control	
Licence endorsements		
OJTI	On-the-job training instructor	
STDI	Synthetic training device instructor	
Assessor	Assessor	

APPENDIX 2 OF ANNEX II

CERTIFICATE FOR AIR TRAFFIC CONTROLLER TRAINING ORGANISATIONS (ATCO TOs)

European Union ([1])

Competent authority

AIR TRAFFIC CONTROLLERS TRAINING ORGANISATION CERTIFICATE

[CERTIFICATE NUMBER/REFERENCE]

Pursuant to Commission Regulation (EU) 2015/340 and subject to the conditions specified below, the [competent authority] hereby certifies

[NAME OF THE TRAINING ORGANISATION]

[ADDRESS OF THE TRAINING ORGANISATION]

as a Part ATCO.OR certified training organisation with the privilege to provide Part ATCO training, as listed in the attached training approval.

Terms of approval and privileges:

This certificate is limited to the privileges and the scope of providing training as listed in the attached training approval.

This certificate is valid whilst the certified organisation remains in compliance with Part ATCO.OR, Part ATCO and other applicable regulations.

Subject to compliance with the foregoing terms of approval and privileges, this certificate shall remain valid unless the certificate has been surrendered, superseded, limited, suspended or revoked.

Date of issue:

Signed:

[Competent authority]

EASA Form 153 — Issue 1, Page 1/2

([1]) 'European Union' to be deleted for non-EU Member States.

AIR TRAFFIC CONTROLLERS TRAINING ORGANISATION CERTIFICATE

TRAINING APPROVAL

Attachment to ATCO TO certificate number:

[CERTIFICATE NUMBER/REFERENCE]

[NAME OF THE TRAINING ORGANISATION]

has obtained the privileges to provide and conduct the following training in accordance with Part ATCO:

TYPE(S) OF TRAINING			
Type of training	**Course**	**Rating endorsements ([2])**	**Remarks ([3])**
☐ ATCO Initial training	☐ Basic training	n/a	
	☐ Rating training ([4])		
☐ ATCO Unit training	..... ([5])		
☐ ATCO Continuation training	☐ ATCO Refresher training	n/a	
	☐ ATCO Conversion training ([6])	n/a	
☐ Practical instructor training	n/a	n/a	
		n/a	
☐ Assessor training	n/a	n/a	
		n/a	

This training course approval is valid as long as:

(a) the ATCO TO certificate has not been surrendered, superseded, limited, suspended or revoked; and

(b) all operations are conducted in compliance with Part ATCO.OR, Part ATCO, other applicable regulations, and, when relevant, with the procedures in the organisation's documentation as required by Part ATCO.OR.

Date of issue:

Signed: [Competent authority]

For the Member State/EASA

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([2]) The competent authority shall specify the rating endorsements according to ATCO.B.015 for which the training is provided, if appropriate.
([3]) Wherever necessary.
([4]) The competent authority shall specify the ratings according ATCO.B.010 for which the training is provided.
([5]) The competent authority shall specify the unit endorsement(s) for which the training is provided.
([6]) Not generic training; provided on an ad hoc basis following a specific approval by the competent authority.

APPENDIX 3 OF ANNEX II

CERTIFICATE FOR AERO-MEDICAL EXAMINERS (AMEs) ([1])

European Union ([2])

Competent authority

AERO-MEDICAL EXAMINER CERTIFICATE

CERTIFICATE [NUMBER/REFERENCE]:

Pursuant to Commission Regulation (EU) 2015/340 and subject to the conditions specified below, the [competent authority] hereby certifies

[NAME OF THE AERO-MEDICAL EXAMINER]

[ADDRESS OF THE AERO-MEDICAL EXAMINER]

as aero-medical examiner

CONDITIONS:

1. This certificate is limited to the privileges specified in the attachment to this AME certificate;
2. This certificate requires compliance with the implementing rules and procedures specified in Part MED and/or ATCO.MED as appropriate.
3. This certificate shall remain valid for a period of three years until [xx/yy/zzzz ([3])] subject to compliance with the requirements of Part MED and/or Part ATCO.MED as appropriate unless it has been surrendered, superseded, suspended or revoked.

....

Date of issue: Signature: [Competent authority]

([1]) EASA Form 148 — Issue 1.
([2]) 'European Union' to be deleted for non-EU Member States.
([3]) Expiry date: day/month/year.

CERTIFICATE FOR AERO-MEDICAL EXAMINERS (AMEs)

Attachment to AME certificate number:

PRIVILEGES AND SCOPE

[Name and academic title of the aero-medical examiner] has obtained the privilege(s) to undertake aero-medical examinations and assessments for the issuance of medical certificates as stated in the table below and to issue these medical certificates for:

LAPL	[yes/date]
Class 2	[yes/date]
Class 1 revalidation/renewal	[yes/date]/[no]
Class 3 revalidation/renewal	[yes/date]/[no]

.....

Date of issue:

.....

Signature: [Competent authority]

APPENDIX 4 OF ANNEX II

CERTIFICATE FOR AERO-MEDICAL CENTRES (AeMCs) ([1])

European Union ([2])

Competent authority

AERO-MEDICAL CENTRE CERTIFICATE

REFERENCE:

Pursuant to Commission Regulation (EU) 2015/340 and subject to the conditions specified below, the [competent authority] hereby certifies

[NAME OF THE ORGANISATION]

[ADDRESS OF THE ORGANISATION]

as a Part ORA certified aero-medical centre with the privileges and the scope of activities as listed in the attached terms of approval.

CONDITIONS:

(1) This certificate is limited to the scope of approval section of the approved organisation manual;

(2) This certificate requires compliance with the procedures specified in the organisation documentation as required by Part ORA.

(3) This certificate shall remain valid subject to compliance with the requirements of Part ORA unless it has been surrendered, superseded, suspended or revoked.

....

Date of issue: Signature: [Competent authority]

([1]) EASA Form 146 — Issue 1.
([2]) 'European Union' to be deleted for non-EU Member States.

ANNEX III

PART ATCO.OR
REQUIREMENTS FOR AIR TRAFFIC CONTROLLER TRAINING ORGANISATIONS AND AERO-MEDICAL CENTRES

SUBPART A – GENERAL REQUIREMENTS

ATCO.OR.A.001 Scope

This Part, set out in this Annex, establishes the requirements applicable to air traffic controller training organisations and aero-medical centres in order to obtain and maintain a certificate in accordance with Regulation (EC) No 216/2008 and this Regulation.

SUBPART B — REQUIREMENTS FOR AIR TRAFFIC CONTROLLER TRAINING ORGANISATIONS

ATCO.OR.B.001 Application for a training organisation certificate

(a) Applications for a training organisation certificate shall be submitted to the competent authority in due time to allow the competent authority to evaluate the application. The application shall be submitted in accordance with the procedure established by that authority.

(b) Applicants for an initial certificate shall demonstrate to the competent authority how they will comply with the requirements established in Regulation (EC) No 216/2008 and in this Regulation.

(c) An application for a training organisation certificate shall include the following information:

(1) the applicant's name and address;

(2) the address(es) of the place(s) of operation (including, where relevant, the list of ATC units) if different from the applicant's address in point (a);

(3) the names and contact details of:

(i) the accountable manager;

(ii) the head of the training organisation, if different from point (i);

(iii) the person(s) nominated by the training organisation as the focal point(s) for communication with the competent authority;

(4) date of intended start of activity or change;

(5) a list of types of training to be provided and at least one training course from each type of training that is intended to be provided;

(6) the declaration of compliance with the applicable requirements shall be signed by the accountable manager, stating the training organisation's compliance with the requirements at all times;

(7) the management system processes; and

(8) the date of application.

GM1 ATCO.OR.B.001(c)(2) Application for a training organisation certificate

The requirement to add the list of ATC units is not relevant in the case of training organisations which provide initial training only.

ATCO.OR.B.005 Means of compliance

(a) Alternative means of compliance to the AMC adopted by the Agency may be used by an organisation to establish compliance with Regulation (EC) No 216/2008 and with this Regulation.

(b) When an organisation wishes to use an alternative means of compliance, it shall, prior to implementing it, provide the competent authority with a full description of the alternative means of compliance. The description shall include any revisions to manuals or procedures that may be relevant, as well as an assessment demonstrating compliance with Regulation (EC) No 216/2008 and its implementing rules.

(c) The organisation may implement these alternative means of compliance subject to prior approval by the competent authority and upon receipt of the notification as prescribed in ATCO.AR.A.015(d).

AMC1 ATCO.OR.B.005 Means of compliance

DEMONSTRATION OF COMPLIANCE

In order to demonstrate that the Implementing Rules are complied with, a safety (risk) assessment should be completed and documented. The result of this safety (risk) assessment should demonstrate that an equivalent level of safety to that established by the Acceptable Means of Compliance (AMC) adopted by the Agency is reached.

ATCO.OR.B.010 Terms of approval and privileges of a training organisation certificate

(a) Training organisations shall comply with the scope and privileges defined in the terms of approval attached to the organisation's certificate.

(b) In order to ensure that the applicable requirements in Subpart D of Annex I (Part ATCO) are fulfilled, the privilege to provide unit and continuation training shall only be granted to training organisations which:

(1) hold a certificate for the provision of the air traffic control service; or

(2) have concluded a specific agreement with the ATC provider.

AMC1 ATCO.OR.B.010(a) Terms of approval and privileges of a training organisation certificate

The management system documentation should contain the privileges and detailed scope of activities including the contracted ones for which the training organisation is certified, as relevant to this Regulation.

GM1 ATCO.OR.B.010(b) Terms of approval and privileges of a training organisation certificate

PROVIDING ON-THE-JOB TRAINING VIA AGREEMENT WITH THE ATC PROVIDER

The specific agreement should detail the issues of liability and insurance for the provision of air traffic control service during on-the-job training and consider the relevant provisions of ATCO.OR.C.005 in order to ensure conformity of the contracted or purchased activity or part of activity to the applicable requirements as well as those of ATCO.OR.B.040 on occurrence reporting and ATCO.OR.C.025 on funding and insurances.

ATCO.OR.B.015 Changes to the training organisation

(a) Changes to the organisation that affect the certificate or the terms of approval of the training organisation or any relevant element of the training organisation's management systems shall require prior approval by the competent authority.

(b) Training organisations shall agree with their competent authority on the changes that require prior approval in addition to those specified in point (a).

(c) For any changes requiring prior approval in accordance with points (a) and (b), the training organisation shall apply for and obtain an approval issued by the competent authority. The application shall be submitted before any such change takes place in order to enable the competent authority to determine continued compliance with this Regulation and to amend, if necessary, the training organisation certificate and related terms of approval attached to it.

Training organisations shall provide the competent authority with all relevant documentation.

The change shall only be implemented upon receipt of formal approval by the competent authority in accordance with ATCO.AR.E.010.

Training organisations shall operate under the conditions prescribed by the competent authority during such changes, as applicable.

(d) Changes to the elements referred to in point (a) due to unforeseen circumstances shall be notified to the competent authority without delay in order to obtain approval as necessary.

(e) All changes not requiring prior approval shall be managed and notified to the competent authority as defined in the procedure approved by the competent authority in accordance with ATCO.AR.E.010.

(f) Training organisations shall notify the competent authority when they cease their activities.

AMC1 ATCO.OR.B.015 Changes to the training organisation

GENERAL

(a) Training organisations should inform the competent authority of any changes to personnel specified in Annex III (Part ATCO.OR) that may affect the certificate or the training approval attached to it.

(b) Training organisations should send to the competent authority each management system documentation amendment. Where the amendment requires the competent authority's approval, the training organisation should receive it in writing.

GM1 ATCO.OR.B.015 Changes to the training organisation

GENERAL

(a) Examples of changes that may affect the certificate or the terms of approval of the training organisation or the training organisation's management system are listed below:

(1) the name of the training organisation;

(2) change of legal entity;

(3) the training organisation's principal place of operation;

(4) the training organisation's type(s) of training;

(5) additional locations of the training organisation;

(6) the accountable manager;

(7) any of the persons referred to in Part ATCO.OR;

(8) the training organisation's documentation as required by Subpart ATCO.OR.B on safety policy and procedures;

(9) the facilities.

(b) Prior approval by the competent authority is required for any changes to the training organisation's procedure describing how changes not requiring prior approval will be managed and notified to the competent authority.

GM2 ATCO.OR.B.015 Changes to the training organisation

CHANGE OF NAME

A change of name requires the training organisation to submit a new application as a matter of urgency.

Where this is the only change to report, the new application can be accompanied by a copy of the documentation previously submitted to the competent authority under the previous name, as a means of demonstrating how the training organisation complies with the applicable requirements.

ATCO.OR.B.020 Continued validity

(a) A training organisation's certification shall remain valid subject to the certificate not being surrendered or revoked and subject to the training organisation remaining in compliance with the requirements of Regulation (EC) 216/2008 and this Regulation, taking into account the provisions related to the handling of findings in accordance with ATCO.OR.B.030.

(b) The certificate shall be returned to the competent authority without delay upon its revocation or the cease of all activities.

ATCO.OR.B.025 Access to training organisations' facilities and data

Training organisations and applicants for training organisation certificates shall grant access to any person authorised by or acting on behalf of the competent authority to the relevant premises in order to examine the required records, data, procedures and any other material pertinent to the execution of the tasks of the competent authority.

ATCO.OR.B.030 Findings

After receipt of notification of findings issued by the competent authority in accordance with ATCO.AR.E.015, the training organisation shall:

(a) identify the root cause of the finding;

(b) define a corrective action plan; and

(c) demonstrate the corrective action implementation to the satisfaction of the competent authority within the period agreed with that authority as defined in ATCO.AR.E.015.

GM1 ATCO.OR.B.030(a);(b) Findings

CORRECTIVE ACTION PLAN AND ROOT CAUSE

(a) Corrective action is the action to eliminate the root cause of a non-compliance in order to prevent its recurrence.

(b) Determination of the root cause is crucial for defining effective corrective actions.

GM2 ATCO.OR.B.030(c) Findings

COMPETENT AUTHORITY

When reference is made to the competent authority, this means either the competent authority that has issued the certificate or the competent authority ensuring oversight of activities, if they are different, based on the agreement concluded between the authorities.

ATCO.OR.B.035 Immediate reaction to a safety problem

The training organisation shall implement any safety measures mandated by the competent authority in accordance with ATCO.AR.C.001(a)(3) for the training organisation activities.

ATCO.OR.B.040 Occurrence reporting

(a) Training organisations providing on-the-job training shall report to the competent authority, and to any other organisation required by the State of the operator to be informed, any accident, serious incident and occurrence as defined in Regulation (EU) No 996/2010 of the European Parliament and of the Council[3] and Regulation (EU) No 376/2014, resulting from their training activity.

(b) Reports shall be made as soon as practicable, but in any case within 72 hours of the training organisation identifying the condition to which the report relates, unless exceptional circumstances prevent this.

(c) Where relevant, training organisations shall produce a follow-up report to provide details of actions it intends to take to prevent similar occurrences in the future, as soon as these actions have been identified.

[3] Regulation (EU) No 996/2010 of the European Parliament and of the Council of 20 October 2010 on the investigation and prevention of accidents and incidents in civil aviation and repealing Directive 94/56/EC (OJ L 295, 12.11.2010, p. 35).

(d) Without prejudice to Regulation (EU) No 996/2010 and Regulation (EU) No 376/2014, the reports referred to in points (a), (b) and (c) shall be made in a form and manner established by the competent authority and contain all pertinent information about the condition known to the training organisation.

GM1 ATCO.OR.B.040 Occurrence reporting

The training organisation's report should focus on occurrences taking place during on-the-job training with regard to the training aspects involved.

The report may be submitted together with or as an integral part of the report prepared by the air navigation service provider.

SUBPART C — MANAGEMENT OF AIR TRAFFIC CONTROLLER TRAINING ORGANISATIONS

ATCO.OR.C.001 Management system of training organisations

Training organisations shall establish, implement and maintain a management system that includes:

(a) clearly defined lines of responsibility and accountability throughout the organisation, including direct safety accountability of the accountable manager;

(b) a description of the overall principles of the organisation with regard to safety, referred to as the safety policy;

(c) the identification of aviation safety hazards entailed by the activities of the training organisation, their evaluation and the management of associated risks, including actions to mitigate the risk and verify their effectiveness;

(d) maintaining personnel trained and competent to perform their tasks;

(e) documentation of all management system key processes, including a process for making personnel aware of their responsibilities and the procedure for amending this documentation;

(f) a function to monitor compliance of the organisation with the relevant requirements. Compliance monitoring shall include a feedback system of findings to the accountable manager to ensure effective implementation of corrective actions as necessary;

(g) the management system shall be proportionate to the size of the organisation and its activities, taking into account the hazards and associated risks inherent in those activities.

GM1 ATCO.OR.C.001 Management system of training organisations

The requirements for the management system of training organisations may be satisfied if the air navigation service provider's management system/safety management system (SMS) specifically covers the requirements of this Regulation.

AMC1 ATCO.OR.C.001(b) Management system of training organisations

SAFETY POLICY

The safety policy should:

(a) be endorsed by the accountable manager;

(b) clearly identify safety as the highest organisational priority over commercial, operational, environmental or social pressures;

(c) include a commitment to:

(1) improve towards the highest safety standards;

(2) comply with all applicable legal requirements, meet all applicable standards and consider best practices;

(3) provide appropriate resources; and

(4) enforce safety as the primary responsibility of all managers and staff;

(d) be communicated, with visible endorsement, throughout the organisation;

(e) include safety reporting and just culture principles;

(f) enhance and embed safety culture and safety awareness; and

(g) be periodically reviewed to ensure it remains relevant and appropriate to the training organisation.

AMC1 ATCO.OR.C.001(c) Management system of training organisations

IDENTIFICATION OF AVIATION SAFETY HAZARDS

For training organisations not providing on-the-job training, the hazard identification process may be limited to a demonstration that there are no hazards directly identified. However, the training should be designed so as to ensure future safe operations.

AMC1 ATCO.OR.C.001(d) Management system of training organisations

PERSONNEL

A training organisation should demonstrate that:

(a) a list of activities with relevant needed competence has been established;

(b) their personnel have the relevant competence needed to fulfil the activities they are required to perform;

(c) their personnel maintain a level of competence through training as appropriate;

(d) their theoretical and practical instructors are qualified in accordance with Part ATCO, Subpart C of this Regulation;

(e) their practical instructors either hold an OJTI endorsement or an STDI endorsement;

(f) their assessors hold an assessor endorsement; and

(g) their synthetic training device instructors and assessors demonstrate knowledge of and receive refresher training in current operational practices.

AMC1 ATCO.OR.C.001(e) Management system of training organisations

PROCESSES

Training organisations should demonstrate that the management system:

(a) policies, processes and procedures are monitored to ensure they are current and subject to periodic review and amendment, when necessary, to maintain their continued accuracy and suitability;

(b) allows for the impromptu recognition and initiation of improvements to policies, processes and procedures between periodic reviews;

(c) controls, records and tracks changes to all of the management system policy, process and procedure documents;

(d) includes a master record index that lists all the policies, processes and procedures; and

(e) includes as a minimum the following:

(1) master record index;

(2) training provider certificate;

(3) management structure;

(4) staff role profiles including accountabilities and responsibilities;

(5) training manuals, plans and courses;

(6) evidence of regulatory compliance;

(7) change control process;

(8) safety management manual;

(9) course design documents;

(10) instructor/assessor qualification and competence records.

AMC1 ATCO.OR.C.001(f) Management system of training organisations

COMPLIANCE MONITORING

(a) The implementation and use of a compliance monitoring function should enable the training organisation to monitor compliance with the relevant requirements of this Regulation.

(b) Training organisations should specify the basic structure of the compliance monitoring function applicable to the activities conducted.

(c) The compliance monitoring function should be structured according to the activities of the training organisation to be monitored.

GM1 ATCO.OR.C.001(f) Management system of training organisations

EXAMPLE OF COMPLIANCE MONITORING SYSTEM

(a) Training organisations may monitor compliance with the procedures they have designed to ensure safe activities. In doing so, they may, as a minimum, and, where appropriate, monitor:

(1) the organisational structure;

(2) the plans and objectives;

(3) the privileges of the organisation;

(4) the manuals, logs and records;

(5) the training standards;

(6) the management system.

(b) Organisational set-up

(1) To ensure that the training organisation continues to meet the requirements of this Regulation, the accountable manager may designate a person responsible for the compliance monitoring function whose role is to verify, by monitoring the activities of the organisation, that the standards required by this Regulation and any additional requirements as established by the organisation are met under the supervision of the relevant head of the functional area. For small training organisations, these identified functions can be fulfilled by the same person.

(2) The person designated for the compliance monitoring function should be responsible for ensuring that the compliance monitoring programme is properly implemented, maintained and continually reviewed and improved.

(3) The designated person responsible for the compliance monitoring function should:

(i) have direct access to the accountable manager; and

(ii) have access to all parts of the training organisation and, as necessary, to any contracted organisation.

(c) Compliance monitoring documentation

(1) Relevant documentation could include the relevant part(s) of the training organisation management system documentation.

(2) In addition, relevant documentation could also include the following:

(i) terminology;

(ii) specified activity standards;

(iii) description of the organisation;

(iv) allocation of duties and responsibilities;

(v) procedures to ensure regulatory compliance;

(vi) compliance monitoring programme, reflecting:

(A) schedule of the monitoring programme;

(B) audit procedures;

(C) reporting procedures;

(D) follow-up and corrective action procedures; and

(E) recording system;

(vii) training elements referred to in paragraph 4(b); and

(viii) document control.

(d) Training

(1) Correct and thorough training is essential to optimise compliance in every training organisation. In order to achieve significant outcomes of such training, the training organisation needs to ensure that all personnel understand the objectives laid down in the organisation's manual.

(2) Those responsible for managing the compliance monitoring function should receive training in this task. Such training could cover the requirements of compliance monitoring, manuals and procedures related to the task, audit techniques, reporting and recording.

(3) Time needs to be provided to train all personnel involved in compliance management and for briefing the rest of the personnel.

(4) The allocation of time and resources needs to be governed by the activities covered by the training organisation.

AMC2 ATCO.OR.C.001(f) Management system of training organisations

COMPLIANCE MONITORING

The person designated for the compliance monitoring function should be responsible for the review and continuous improvement of the established management system's policies, processes and procedures. The following tools are essential to the ongoing continuous improvement process:

(a) organisational risk profile;

(b) risk management plan;

(c) coherence matrix;

(d) corrective and preventive action reports; and

(e) inspection and audit reports.

GM2 ATCO.OR.C.001(f) Management system of training organisations

COMPLIANCE MONITORING

(a) These tools and processes related to the compliance monitoring function are interrelated and help define the continuous improvement efforts of the organisation. For example, any corrective or preventive action report could identify a deficiency or an opportunity for improvement. The person responsible for the compliance monitoring function would then be required to ensure the identified issue was addressed and the corrective or preventive action effectively implemented. The same would be true if the discovery of an issue was identified during an inspection or audit.

(b) The effective implementation of change and the subsequent validation that the change did result in the desired outcome is critical to the continuous improvement process. Simply introducing a well-meaning suggestion for improvement into the organisation without carefully managing that change could have undesirable consequences. It is, therefore, the responsibility of the person in

charge of the compliance monitoring function to introduce, monitor and validate improvement efforts.

(c) A simple but effective process to use in managing continuous improvement is known as the plan-do-check-act, or PDCA, approach:

(1) plan — map out the implementation of the recommended change, identifying at least:

(i) those people who will be affected by the change;

(ii) the required measures necessary to mitigate risk; and

(iii) the desired outcome and its intended consequences.

(2) do — execute the implementation plan once all affected groups have accepted the proposal and understand their role in ensuring its success;

(3) check — apply sufficient quality control 'stage' checks throughout the implementation phase to ensure any unintended deviations in the execution are identified and addressed without delay; and

(4) act — analyse the results and take appropriate action as necessary.

AMC1 ATCO.OR.C.001(g) Management system of training organisations

SIZE, NATURE AND COMPLEXITY OF THE ACTIVITY

(a) A training organisation should be considered as complex when it has a workforce of more than 20 full-time equivalents (FTEs) involved in the activity subject to Regulation (EC) No 216/2008[4] and its Implementing Rules.

(b) A training organisation with up to 20 FTEs involved in the activity subject to Regulation (EC) No 216/2008 and its Implementing Rules may also be considered complex based on an assessment of the following factors:

(1) the extent and scope of contracted activities subject to the certificate, in terms of complexity; and

(2) the different types of training provided, in terms of risk criteria.

ATCO.OR.C.005 Contracted activities

(a) Training organisations shall ensure that when contracting or purchasing any parts of their activities, the contracted or purchased activity or part of activity conform to the applicable requirements.

(b) When a training organisation contracts any part of its activity to an organisation that is not itself certified in accordance with this Regulation to carry out such activity, the contracted organisation shall work under the terms of approval contained in the certificate issued to the contracting training organisation. The contracting training organisation shall ensure that the competent authority is given access to the contracted organisation to determine continued compliance with the applicable requirements.

AMC1 ATCO.OR.C.005 Contracted activities

(a) Training organisations may decide to contract certain parts of their activities to external organisations.

[4] Regulation (EC) No 216/2008 of the European Parliament and of the Council of 20 February 2008 on common rules in the field of civil aviation and establishing a European Aviation Safety Agency, and repealing Council Directive 91/670/EEC, Regulation (EC) No 1592/2002 and Directive 2004/36/EC (OJ L 79, 19.3.2008, p. 1).

(b) A written agreement should exist between the training organisation and the contracted organisation clearly defining the contracted activities and the applicable requirements.

(c) The contracted safety-related activities relevant to the agreement should be included in the training organisation's compliance monitoring programme.

(d) Training organisations should ensure that the contracted organisation has the necessary authorisation or approval when required, and commands the resources and competence to undertake the task.

GM1 ATCO.OR.C.005 Contracted activities

RESPONSIBILITY WHEN CONTRACTING ACTIVITIES

(a) Regardless of the approval status of the contracted organisation, the contracting organisation is responsible to ensure that all contracted activities are subject to hazard identification and risk management as required by ATCO.OR.C.001(c) and to compliance monitoring as required by ATCO.OR.C.001(f).

(b) When the contracted organisation is itself certified to carry out the contracted activities, the organisation's compliance monitoring should at least check that the approval effectively covers the contracted activities and that it is still valid.

ATCO.OR.C.010 Personnel requirements

(a) Training organisations shall appoint an accountable manager.

(b) A person or persons shall be nominated by the training organisation with the responsibility for training. Such person or persons shall be ultimately responsible to the accountable manager.

(c) Training organisations shall have sufficient qualified personnel for the planned tasks and activities to be performed in accordance with the applicable requirements.

(d) Training organisations shall maintain a record of theoretical instructors with their relevant professional qualifications, adequate knowledge and experience and their demonstration, instructional techniques assessment and subjects they are entitled to teach.

(e) Training organisations shall establish a procedure to maintain competence of the theoretical instructors.

(f) Training organisations shall ensure that practical instructors and assessors successfully complete refresher training in order to revalidate the respective endorsement.

(g) Training organisations shall maintain a record of persons qualified for assessing practical instructors' competence and assessors' competence, in accordance with ATCO.C.045, with their relevant endorsements.

GM1 ATCO.OR.C.010(b);(c) Personnel requirements

(a) Training organisations may nominate the person responsible for training and a person or persons subordinate to him or her as chief training instructor(s)/unit responsible training officer(s).

(b) Usually, training organisations nominate only one person responsible for training.

(c) Prerequisites, typical function and responsibilities of the person responsible for training may be:

(1) to have extensive experience in instructing for all types of ATC training and possess sound managerial capability;

(2) to have overall responsibility for ensuring satisfactory integration of all training provided and for supervising the progress of the persons undertaking training;

(3) to be responsible for coordinating and delegating the contact to the competent authority in training-related issues; and

(4) to be ultimately responsible to the accountable manager.

(d) Prerequisites, typical functions and responsibilities of the chief training instructor(s)/unit responsible training officer(s) may be:

(1) to have extensive experience in instructing for all types of ATC training and possess sound managerial capability;

(2) to have responsibility for ensuring satisfactory training is provided and for supervising the progress of the persons undertaking training in the areas that have been delegated by the person responsible for training; and

(3) to report to the person responsible for training.

ATCO.OR.C.015 Facilities and equipment

(a) Training organisations shall have facilities allowing the performance and management of all planned tasks and activities in accordance with this Regulation.

(b) The training organisation shall ensure that the synthetic training devices comply with the applicable specifications and requirements appropriate to the task.

(c) During on-the-job training instruction, the training organisation shall ensure that the instructor has exactly the same information as the person undertaking OJT and the means to intervene immediately.

AMC1 ATCO.OR.C.015(a) Facilities and equipment

(a) General areas

A training organisation should have access to facilities appropriate to the size and scope of the intended operations provided in an environment conducive to learning.

(b) Training areas

For training organisations providing theoretical training, the facilities should also include sufficient suitably equipped classroom areas.

GM1 ATCO.OR.C.015(a) Facilities and equipment

(a) General areas

These facilities should include general areas, which consist of sufficient:

(1) office space for managerial and administrative as well as training staff;

(2) rooms for study and testing;

(3) library facilities; and

(4) storage areas, including secure areas for training and personnel records.

(b) Training areas

For training organisations providing practical training, the facilities should also include sufficient:

(1) rooms for briefing and debriefing; and

(2) suitably equipped rooms for practical training.

AMC1 ATCO.OR.C.015(b) Facilities and equipment

SPECIFICATIONS FOR SYNTHETIC TRAINING DEVICES

(a) Synthetic training devices classifications

Synthetic training devices used for training should be classified according to one of the following classifications:

(1) simulator (SIM);

(2) part-task trainer (PTT).

(b) Synthetic training device (STD) criteria

If an STD is used for training, it should be approved by the competent authority as part of the course approval process for any training plan. Training organisations should demonstrate how the STD will provide adequate support for the intended training, in particular, how the STD will meet the stated objectives of the practical training exercises and enable the performance objectives to be assessed to the level determined in the training programme.

This demonstration and the related documentation should include the following relevant criteria:

(1) the general environment, which should provide an environment in which STD exercises may be run without undue interference from unrelated activities;

(2) the STD layout;

(3) the equipment provided;

(4) the display presentation, functionality, and updating of operational information;

(5) data displays, including strip displays, where appropriate;

(6) coordination facilities;

(7) aircraft performance characteristics, including the availability of manoeuvres, e.g. holding or instrumental landing system (ILS) operation, required for a particular simulation;

(8) the availability of real-time changes during an exercise;

(9) the processes by which the training organisation can be assured that staff associated with the training conducted with the use of an STD are competent;

(10) the degree of realism of any voice recognition system associated with the STD; and

(11) where a simulator is an integral part of an operational ATC system, the processes by which the training organisation is assured that interference between the simulated and operational environments is prevented.

The extent to which the STD achieves the above criteria will be used to determine the adequacy of the STD for the proposed use. As a general principle, the greater the degree of replication of the operational position being represented, the greater the use will be possible for any particular training.

(c) STD used for pre-on-the-job training

When an STD is used for pre-on-the-job training and the training time is counted as operational training, the STD classification should be a full-size replica of a working position, including all equipment, and computer programmes necessary to represent the full tasks associated with that position, including realistic wind at all levels to facilitate SRA. In the case of a working position at a tower unit, it includes an out-of-the-tower view.

ATCO.OR.C.020 Record keeping

(a) Training organisations shall retain detailed records of persons undertaking or having undertaken training to show that all requirements of the training courses have been met.

(b) Training organisations shall establish and maintain a system for recording the professional qualifications and instructional techniques assessments of instructors and assessors, as well as the subjects they are entitled to teach, where appropriate.

(c) The records required in points (a) and (b) shall be retained for a minimum period of five years subject to the applicable national data protection law:

(1) after the person undertaking training has completed the course; and

(2) after the instructor or assessor ceases to perform a function for the training organisation, as applicable.

(d) The archiving process including the format of the records shall be specified in the training organisation's management system.

(e) Records shall be stored in a secure manner.

AMC1 ATCO.OR.C.020(a);(b) Record keeping

Training organisations should maintain the following records:

(a) Records of persons undertaking training:

(1) personal information;

(2) details of training received including the starting date of the training, as well as the results of the examinations and assessments;

(3) detailed and regular progress report forms;

(4) certificate of completion of training courses.

(b) Records of instructors and assessors:

(1) personal information;

(2) qualification records;

(3) records of refresher training for instructors and assessors;

(4) assessment reports;

(5) instructional and/or assessment time records.

Training organisations should submit training records and reports to the competent authority as required.

ATCO.OR.C.025 Funding and insurances

Training organisations shall demonstrate that sufficient funding is available to conduct the training according to this Regulation and that the activities have sufficient insurance cover in accordance with the nature of the training provided and all activities can be carried out in accordance with this Regulation.

AMC1 ATCO.OR.C.025 Funding and insurances

SUFFICIENT FUNDING

To demonstrate compliance with the requirement on the availability of sufficient funding, training organisations may be required to present an economic study identifying the minimum amount necessary to ensure that the training is conducted in accordance with the applicable requirements.

AMC2 ATCO.OR.C.025 Funding and insurances

SUFFICIENT INSURANCE COVER

To demonstrate compliance with the requirement on sufficient insurance cover, training organisations may be required to provide a deposit of an insurance certificate or other evidence of valid insurance.

The insurance cover should be established by taking into account the nature of the training provided, the frequency and the fees applicable to the training courses.

SUBPART D – REQUIREMENTS FOR TRAINING COURSES AND TRAINING PLANS

ATCO.OR.D.001 Requirements for training courses and training plans

Training organisations shall develop:

(a) training plans and training courses associated to the type(s) of training provided in accordance with the requirements set out in Annex I (Part ATCO), Subpart D;

(b) subjects, subject objectives, topics and subtopics for rating endorsements in accordance with the requirements laid down in Annex I (Part ATCO);

(c) methods of assessments in accordance with ATCO.D.090(a)(3) and ATCO.D.095(a)(3).

ATCO.OR.D.005 Examination and assessment results and certificates

(a) The training organisation shall make available to the applicant his/her results of examinations and assessments and, upon applicant's request, issue a certificate with his/her result of examinations and assessments.

(b) Upon successful completion of initial training, or of rating training for the issue of an additional rating, the training organisation shall issue a certificate.

(c) A certificate of completion of the basic training shall only be issued upon request of the applicant if all subjects, topics and subtopics contained in Appendix 2 of Annex I have been completed and the applicant has successfully passed the associated examinations and assessments.

SUBPART E – REQUIREMENTS FOR AERO-MEDICAL CENTRES

ATCO.OR.E.001 Aero-medical centres

Aero-medical centres (AeMCs) shall apply the provisions of Subparts ORA.GEN and ORA.AeMC of Annex VII to Commission Regulation (EU) No 290/2012[5], with:

(a) all references to class 1 to be replaced with class 3; and

(b) all references to Part MED to be replaced with Part ATCO.MED.

[5] Commission Regulation (EU) No 290/2012 of 30 March 2012 amending Regulation (EU) No 1178/2011 laying down technical requirements and administrative procedures related to civil aviation aircrew pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council (OJ L 100, 5.4.2012, p. 1).

ANNEX IV

PART ATCO.MED
MEDICAL REQUIREMENTS FOR AIR TRAFFIC CONTROLLERS

SUBPART A — GENERAL REQUIREMENTS

SECTION 1
GENERAL

ATCO.MED.A.001 Competent authority

For the purpose of this Part, the competent authority shall be:

(a) for aero-medical centres (AeMCs):

(1) the authority designated by the Member State where the AeMC has its principal place of business;

(2) the Agency, when the AeMC is located in a third country.

(b) for aero-medical examiners (AMEs):

(1) the authority designated by the Member State where the AMEs have their principal place of practice;

(2) if the principal place of practice of an AME is located in a third country, the authority designated by the Member State to which the AME applies for the issue of the certificate.

ATCO.MED.A.005 Scope

This Part, set out in this Annex, establishes the requirements for:

(a) the issue, validity, revalidation and renewal of the medical certificate required for exercising the privileges of an air traffic controller licence or of a student air traffic controller licence with the exception of synthetic training device instructor; and

(b) the certification of AMEs to issue class 3 medical certificates.

ATCO.MED.A.010 Definitions

For the purpose of this Part, the following definitions apply:

(a) 'Accredited medical conclusion' means the conclusion reached by one or more medical experts acceptable to the licensing authority, on the basis of objective and non-discriminatory criteria, for the purposes of the case concerned, in consultation with operational experts or other experts as necessary and including an operational risk assessment;

(b) 'Aero-medical assessment' means the conclusion on the medical fitness of an applicant based on the evaluation of the applicant's medical history and aero-medical examinations as required in this Part and further examinations and medical tests as necessary;

(c) 'Aero-medical examination' means inspection, palpation, percussion, auscultation or any other means of investigation especially for determining the medical fitness to exercise the privileges of the licence;

(d) 'Eye specialist' means an ophthalmologist or a vision care specialist qualified in optometry and trained to recognise pathological conditions;

(e) 'Investigation' means the assessment of a suspected pathological condition of an applicant by means of examinations and tests to verify the presence or absence of a medical condition;

(f) 'Licensing authority' means the competent authority of the Member State that issued the licence, or to which a person applies for the issue of a licence, or, when a person has not yet applied for the issue of a licence, the competent authority in accordance with this Part;

(g) 'Limitation' means a condition placed on the medical certificate that shall be complied with whilst exercising the privileges of the licence;

(h) 'Refractive error' means the deviation from emmetropia measured in dioptres in the most ametropic meridian, measured by standard methods;

(i) 'Significant' means a degree of a medical condition, the effect of which would prevent the safe exercise of the privileges of the licence.

ATCO.MED.A.015 Medical confidentiality

All persons involved in aero-medical examination, aero-medical assessment and certification shall ensure that medical confidentiality is respected at all times.

AMC1 ATCO.MED.A.015 Medical confidentiality

To ensure medical confidentiality, all medical reports and records should be securely held with accessibility restricted to personnel authorised by the medical assessor.

ATCO.MED.A.020 Decrease in medical fitness

(a) Licence holders shall not exercise the privileges of their licence at any time when they:

(1) are aware of any decrease in their medical fitness which might render them unable to safely exercise those privileges;

(2) take or use any prescribed or non-prescribed medication which is likely to interfere with the safe exercise of the privileges of the licence;

(3) receive any medical, surgical or other treatment that is likely to interfere with the safe exercise of the privileges of the licence.

(b) In addition, holders of a class 3 medical certificate shall, without undue delay and before exercising the privileges of their licence, seek aero-medical advice when they:

(1) have undergone a surgical operation or invasive procedure;

(2) have commenced the regular use of any medication;

(3) have suffered any significant personal injury involving any incapacity to exercise the privileges of the licence;

(4) have been suffering from any significant illness involving any incapacity to exercise the privileges of the licence;

(5) are pregnant;

(6) have been admitted to hospital or medical clinic;

(7) first require correcting lenses.

In these cases the AeMC or AME shall assess the medical fitness of the licence holder or student air traffic controller and decide whether they are fit to resume the exercise of their privileges.

GM1 ATCO.MED.A.020 Decrease in medical fitness

MEDICATION — GUIDANCE FOR AIR TRAFFIC CONTROLLERS

(a) Any medication can cause side effects, some of which may impair the safe exercise of the privileges of the licence. Equally, symptoms of colds, sore throats, diarrhoea and other abdominal upsets may cause little or no problem whilst not exercising the privileges of the licence, but may distract the air traffic controller and degrade their performance whilst on duty. Therefore, one issue with medication and the safe exercise of the privileges of the licence is the underlying condition and, in addition, the symptoms may be compounded by the side effects of the medication prescribed or bought over the counter for treatment. This guidance material provides some help to air traffic controllers in deciding whether expert aero-medical advice by an AME, AeMC or Medical Assessor is needed.

(b) Before taking any medication and exercising the privileges of the licence, the following three basic questions should be satisfactorily answered:

(1) Do I feel fit to control?

(2) Do I really need to take medication at all?

(3) Have I given this particular medication a personal trial whilst not exercising the privileges of my licence to ensure that it will not have any adverse effects on my ability to exercise the privileges of my licence?

(c) Confirming the absence of adverse effects may well need expert aero-medical advice.

(d) The following are some widely used medicines with a description of their compatibility with the safe exercise of the privileges of the licence:

(1) Antibiotics. Antibiotics may have short-term or delayed side effects which can affect the performance of the air traffic controller. More significantly, however, their use usually indicates that an infection is present and, thus, the effects of this infection may mean that an air traffic controller is not fit to control and should obtain expert aero-medical advice.

(2) Anti-malaria drugs. The decision on the need for anti-malaria drugs depends on the geographical areas to be visited, and the risk that the air traffic controller has of being exposed to mosquitoes and of developing malaria. An expert medical opinion should be obtained to establish whether anti-malaria drugs are needed and what kind of drugs should be used. Most of the anti-malaria drugs (atovaquone plus proguanil, chloroquine, doxycycline) are compatible with the safe exercise of the privileges of the licence. However, adverse effects associated with mefloquine include insomnia, strange dreams, mood changes, nausea, diarrhoea and headaches. In addition, mefloquine may cause spatial disorientation and lack of fine coordination and is, therefore, not compatible with the safe exercise of the privileges of the licence.

(3) Antihistamines. Antihistamines can cause drowsiness. They are widely used in ‘cold cures’ and in treatment of hay fever, asthma and allergic rashes. They may be in tablet form or a constituent of nose drops or sprays. In many cases, the condition itself may preclude the safe exercise of the privileges of the licence, so that, if treatment is necessary, expert aero-medical advice should be sought so that so-called non-sedative antihistamines, which do not degrade human performance, can be prescribed.

(4) Cough medicines. Antitussives often contain codeine, dextromethorfan or pseudo-ephedrine which are not compatible with the safe exercise of the privileges of the licence. However, mucolytic agents (e.g. carbocysteine) are well tolerated and are compatible with the safe exercise of the privileges of the licence.

(5) Decongestants. Nasal decongestants with no effect on alertness may be compatible with the safe exercise of the privileges of the licence.

(6) Nasal corticosteroids are commonly used to treat hay fever, and are compatible with the safe exercise of the privileges of the licence.

(7)

(i) Common pain killers and antifebrile drugs. Non-Steroidal Anti-Inflammatory Drugs (NSAIDs) and paracetamol, commonly used to treat pain, fever or headaches, may be compatible with the safe exercise of the privileges of the licence. However, the air traffic controller should give affirmative answers to the three basic questions in paragraph (b) before using the medication and exercising the privileges of the licence.

(ii) Strong analgesics. The more potent analgesics including codeine are opiate derivatives, and may produce a significant decrement in human performance and, therefore, are not compatible with the safe exercise of the privileges of the licence.

(8) Anti-ulcer medicines. Gastric secretion inhibitors such as H2 antagonists (e.g. ranitidine, cimetidine) or proton pump inhibitors (e.g. omeprazole) may be acceptable after diagnosis of the pathological condition. It is important to seek for the medical diagnosis and not to only treat the dyspeptic symptoms.

(9) Anti-diarrhoeal drugs. Loperamide is one of the more common anti-diarrhoeal drugs and is usually safe to take whilst exercising the privileges of the licence. However, the diarrhoea itself often makes the air traffic controller unable to exercise the privileges of the licence.

(10) Hormonal contraceptives and hormone replacement therapy usually have no adverse effects and are compatible with the safe exercise of the privileges of the licence.

(11) Erectile dysfunction medication. This medication may cause disturbances in colour vision and dizziness. There should be at least six hours between taking sildenafil and exercising the privileges of the licence; and 36 hours between taking vardenafil or tadalafil and exercising the privileges of the licence.

(12) Smoking cessation. Nicotine replacement therapy may be acceptable. However, other medication affecting the central nervous system (buproprion, varenicline) is not acceptable for air traffic controllers.

(13) High blood pressure medication. Most anti-hypertensive drugs are compatible with the safe exercise of the privileges of the licence. However, if the level of blood pressure is such that drug therapy is required, the air traffic controller should be monitored for any side effects before exercising the privileges of the licence. Therefore, consultation with the AME, AeMC or Medical Assessor as applicable, is needed.

(14) Asthma medication. Asthma has to be clinically stable before an air traffic controller can return to exercising the privileges of the licence. The use of respiratory aerosols or powders, such as corticosteroids, beta-2-agonists or chromoglycic acid may be compatible with the safe exercise of the privileges of the licence. However, the use of oral steroids or theophylline derivatives is usually incompatible with the safe exercise of the privileges of the licence. Air traffic controllers using medication for asthma should consult an AME, AeMC, or Medical Assessor, as applicable.

(15) Tranquillisers, anti-depressants and sedatives. The inability to react, due to the use of this group of medicines, together with the underlying condition for which these medications have been prescribed, will almost certainly mean that the mental state of an air traffic controller is not compatible with the safe exercise of the privileges of the licence. Air traffic controllers using tranquillisers, anti-depressants and sedatives should consult an AME, AeMC, or Medical Assessor, as applicable.

(16) Sleeping tablets. Sleeping tablets dull the senses, may cause confusion and slow reaction times. The duration of effect may vary from individual to individual and may be unduly

prolonged. Air traffic controllers using sleeping tablets should consult an AME, AeMC, or Medical Assessor, as applicable.

(17) Melatonin. Melatonin is a hormone that is involved with the regulation of the circadian rhythm. In some countries it is a prescription medicine, whereas in most other countries it is regarded as a 'dietary supplement' and can be bought without any prescription. The results from the efficiency of melatonin in treatment of jet lag or sleep disorders have been contradictory. Air traffic controllers using melatonin should consult an AME, AeMC, or Medical Assessor, as applicable.

(18) Coffee and other caffeinated drinks may be acceptable, but excessive coffee drinking may have harmful effects, including disturbance of the heart's rhythm. Other stimulants including caffeine pills, amphetamines, etc. (often known as 'pep' pills) used to maintain wakefulness or suppress appetite can be habit forming. Susceptibility to different stimulants varies from one individual to another, and all may cause dangerous overconfidence. Overdosage causes headaches, dizziness and mental disturbance. These other stimulants should not be used.

(19) Anaesthetics. Following local, general, dental and other anaesthetics, a period of time should elapse before returning to exercising the privileges of the licence. The period will vary considerably from individual to individual, but an air traffic controller should not exercise the privileges of the licence for at least 12 hours after a local anaesthetic, and for at least 48 hours after a general, spinal or epidural anaesthetic.

(e) Many preparations on the market nowadays contain a combination of medicines. It is, therefore, essential that if there is any new medication or dosage, however slight, the effect should be observed by the air traffic controller whilst not exercising the privileges of the licence. It should be noted that medication which would not normally affect air traffic controller performance may do so in individuals who are 'oversensitive' to a particular preparation. Individuals are, therefore, advised not to take any medicines before or whilst exercising the privileges of their licence unless they are completely familiar with their effects on their own bodies. In cases of doubt, air traffic controllers should consult an AME, AeMC, or Medical Assessor, as applicable.

(f) Other treatments

Alternative or complementary medicine, such as acupuncture, homeopathy, hypnotherapy and several other disciplines, is developing and gaining greater credibility. Such treatments are more acceptable in some States than others. There is a need to ensure that 'other treatments', as well as the underlying condition, are declared and considered by the AME, AeMC, or Medical Assessor, as applicable, for assessing fitness.

ATCO.MED.A.025 Obligations of AeMC and AME

(a) When conducting aero-medical examinations and assessments as required in this Part, the AeMC or AME shall:

(1) ensure that communication with the applicant can be established without language barriers;

(2) make the applicant aware of the consequences of providing incomplete, inaccurate or false statements on their medical history;

(3) notify the licensing authority if the applicant provides incomplete, inaccurate or false statements on their medical history;

(4) notify the licensing authority if the applicant withdraws the application for a medical certificate at any stage of the process.

(b) After completion of the aero-medical examinations and assessments, the AeMC and AME shall:

(1) advise the applicant whether fit, unfit or referred to the licensing authority;

(2) inform the applicant of any limitation placed on the medical certificate; and

(3) if the applicant has been assessed as unfit, inform him/her of his/her right of a review of the decision; and

(4) submit without delay to the licensing authority a signed, or electronically authenticated, report containing the detailed results of the aero-medical examination and assessment for the medical certificate and a copy of the application form, the examination form and the medical certificate; and

(5) inform the applicant of their responsibility in the case of decrease in medical fitness as specified in ATCO.MED.A.020.

(c) AeMCs and AMEs shall maintain records with details of aero-medical examinations and assessments performed in accordance with this Part and their results for a minimum period of 10 years, or for a period as determined by national legislation if this is longer.

(d) AeMCs and AMEs shall submit to the medical assessor of the competent authority, upon request, all aero-medical records and reports, and any other relevant information when required for:

(1) medical certification;

(2) oversight functions.

AMC1 ATCO.MED.A.025 Obligations of AeMC and AME

(a) If the aero-medical examination is carried out by two or more AMEs, only one of them should be responsible for coordinating the results of the examination, evaluating the findings with regard to medical fitness and signing the report.

(b) The applicant should be made aware that the associated medical certificate may be suspended or revoked if the applicant provides incomplete, inaccurate or false statements on their medical history to the AME or AeMC.

(c) The AME or AeMC should give advice to the applicant on treatment and preventive measures if, during the course of the examination, medical conditions which may endanger the medical fitness of the applicant in the future are found.

GM1 ATCO.MED.A.025 Obligations of AeMC and AME

GUIDELINES FOR THE AEMC AND AME CONDUCTING THE AERO-MEDICAL EXAMINATIONS AND ASSESSMENTS FOR CLASS 3 MEDICAL CERTIFICATES

(a) Before performing the aero-medical examination, the AeMC or AME should:

(1) verify the applicant's identity by checking their identity card, passport, driving licence or other official document containing a photograph of the applicant;

(2) obtain details of the applicant's licence from the applicant's licensing authority if they do not have their licence with them;

(3) obtain details of the applicant's most recent medical certificate from the applicant's licensing authority if they do not have their certificate with them;

(4) in the case of a specific medical examination (SIC) on the existing medical certificate, obtain details of the specific medical condition and any associated instructions from the applicant's licensing authority. This could include, for example, a requirement to undergo a specific examination or test;

(5) except for initial applicants, ascertain, from the previous medical certificate, which routine medical test(s) should be conducted, for example electrocardiogram (ECG);

(6) provide the applicant with the application form for a medical certificate and the instructions for its completion and ask the applicant to complete the form but not to sign it yet;

(7) go through the form with the applicant and give information to help the applicant understand the significance of the entries and ask any questions which might help the applicant to recall important historical medical data; and

(8) verify that the form is complete and legible, ask the applicant to sign and date the form and then sign it as well. If the applicant declines to complete the application form fully or declines to sign the declaration consent to the release of medical information, inform the applicant that it may not be possible to issue a medical certificate regardless of the outcome of the clinical examination.

(b) Once all the items in (a) have been addressed, the AeMC or AME should:

(1) perform the aero-medical examination of the applicant in accordance with the applicable rules;

(2) arrange for additional specialist medical examinations, such as otorhinolaryngology or ophthalmology, to be conducted as applicable and obtain the associated report forms or reports;

(3) complete the aero-medical examination report form in accordance with the associated instructions for completion; and

(4) ensure that all of the report forms are complete, accurate and legible.

(c) Once all the actions in (b) have been carried out, the AeMC or AME should review the report forms and:

(1) if satisfied that the applicant meets the applicable medical requirements as set out in this Part, issue a medical certificate, with limitations if necessary. The applicant should sign the certificate once signed by the AeMC or AME; or

(2) if the applicant does not meet the applicable medical requirements or if the fitness of the applicant is in doubt:

(i) refer the decision on medical fitness to the licensing authority as indicated in ATCO.MED.B.001; or

(ii) deny issuance of a medical certificate, explain the reason(s) for denial to the applicant and inform them of their right of a review according to the procedures of the competent authority.

(d) The AeMC or AME should send the documents as required by ATCO.MED.A.025(b) to the applicant's licensing authority within five days from the date of the aero-medical examination. If a medical certificate has been denied or the decision has been referred, the documents should be sent to the licensing authority on the same day that the denial or referral decision is reached.

SECTION 2
REQUIREMENTS FOR MEDICAL CERTIFICATES

ATCO.MED.A.030 Medical certificates

(a) Applicants for and holders of an air traffic controller licence, or student air traffic controller licence, shall hold a class 3 medical certificate.

(b) A licence holder shall not at any time hold more than one medical certificate issued in accordance with this Part.

ATCO.MED.A.035 Application for a medical certificate

(a) Applications for a medical certificate shall be made in a format established by the competent authority.

(b) Applicants for a medical certificate shall provide the AeMC or AME with:

(1) proof of their identity;

(2) a signed declaration:

(i) of medical facts concerning their medical history;

(ii) as to whether they have previously applied for a medical certificate or have undergone an aero-medical examination for a medical certificate and, if so, by whom and with what result;

(iii) as to whether they have ever been assessed as unfit or had a medical certificate suspended or revoked.

(c) When applying for a revalidation or renewal of the medical certificate, applicants shall present the most recent medical certificate to the AeMC or AME prior to the relevant aero-medical examinations.

AMC1 ATCO.MED.A.035 Application for a medical certificate

Except for initial applicants, when applicants do not present the most recent medical certificate to the AeMC or AME prior to the relevant examinations, the AeMC or AME should not issue the medical certificate unless relevant information is received from the licensing authority.

ATCO.MED.A.040 Issue, revalidation and renewal of medical certificates

(a) A medical certificate shall only be issued, revalidated or renewed once the required aero-medical examinations and assessments have been completed and the applicant has been assessed as fit.

(b) Initial issue:

Initial class 3 medical certificates shall be issued by an AeMC.

(c) Revalidation and renewal:

Class 3 medical certificates shall be revalidated or renewed by an AeMC or an AME.

(d) The AeMC or AME shall only issue, revalidate or renew a medical certificate if:

(1) the applicant has provided them with a complete medical history and, if required by the AeMC or AME, results of aero-medical examinations and tests conducted by the applicant's physician or any medical specialists; and

(2) the AeMC or AME has conducted the aero-medical assessment based on the aero-medical examinations and tests as required to verify that the applicant complies with all the relevant requirements of this Part.

(e) The AME, AeMC or, in the case of referral, the licensing authority may require the applicant to undergo additional medical examinations and investigations when clinically indicated before the medical certificate is issued, revalidated or renewed.

(f) The licensing authority may issue or reissue a medical certificate, as applicable, if:

(1) a case is referred;

(2) it has identified that corrections to the information on the certificate are necessary, in which case the incorrect medical certificate shall be revoked.

ATCO.MED.A.045 Validity, revalidation and renewal of medical certificates

(a) Validity:

(1) Class 3 medical certificates shall be valid for a period of 24 months.

(2) The period of validity of class 3 medical certificates shall be reduced to 12 months for licence holders who have reached the age of 40. A medical certificate issued prior to reaching the age of 40 shall cease to be valid when the licence holder reaches the age of 41.

(3) The validity period of a medical certificate, including any associated examination or special investigation, shall be:

(i) determined by the age of the applicant at the date when the aero-medical examination takes place; and

(ii) calculated from the date of the aero-medical examination in the case of initial issue and renewal, and from the expiry date of the previous medical certificate in the case of revalidation.

(b) Revalidation:

Aero-medical examinations and assessments for the revalidation of a medical certificate may be undertaken up to 45 days prior to the expiry date of the medical certificate.

(c) Renewal:

(1) If the holder of a medical certificate does not comply with point (b), a renewal aero-medical examination and assessment shall be required.

(2) If the medical certificate has expired for:

(i) less than 2 years, a routine revalidation aero-medical examination shall be performed;

(ii) more than 2 years, the AeMC or AME shall only conduct the renewal aero-medical examination after assessment of the aero-medical records of the applicant;

(iii) more than 5 years, the aero-medical examination requirements for initial issue shall apply and the assessment shall be based on the revalidation requirements.

ATCO.MED.A.046 Suspension or revocation of a medical certificate

(a) Upon revocation of the medical certificate, the holder shall immediately return the medical certificate to the licensing authority.

(b) Upon suspension of the medical certificate, the holder shall return the medical certificate to the licensing authority on request of the authority.

ATCO.MED.A.050 Referral

If an applicant for a class 3 medical certificate is referred to the licensing authority in accordance with ATCO MED.B.001, the AeMC or AME shall transfer the relevant medical documentation to the licensing authority.

SUBPART B — SPECIFIC REQUIREMENTS FOR CLASS 3 MEDICAL CERTIFICATES

SECTION 1
GENERAL

ATCO.MED.B.001 Limitations to medical certificates

(a) Limitations to class 3 medical certificates:

(1) If the applicant does not fully comply with the requirements for a class 3 medical certificate but is considered to be not likely to jeopardise the safe exercise of the privileges of the licence, the AeMC or AME shall:

(i) refer the decision on fitness of the applicant to the licensing authority as indicated in this Subpart; or

(ii) in cases where a referral to the licensing authority is not indicated in this Subpart, evaluate whether the applicant is able to perform their duties safely when complying with one or more limitations endorsed on the medical certificate, and issue the medical certificate with limitation(s) as necessary.

(2) The AeMC or AME may revalidate or renew a medical certificate with the same limitation without referring the applicant to the licensing authority.

(b) When assessing whether a limitation is necessary, particular consideration shall be given to:

(1) whether accredited medical conclusion indicates that in special circumstances the applicant's failure to meet any requirement, whether numerical or otherwise, is such that exercise of the privileges of the licence is not likely to jeopardise the safe exercise of the privileges of the licence;

(2) the applicant's experience relevant to the operation to be performed.

(c) Operational limitations

(1) The competent authority, in conjunction with the air navigation service provider, shall determine the operational limitations applicable in the specific operational environment concerned.

(2) Appropriate operational limitations shall only be placed on the medical certificate by the licensing authority.

(d) Any other limitation may be imposed on the holder of a medical certificate if required to ensure the safe exercise of the privileges of the licence.

(e) Any limitation imposed on the holder of a medical certificate shall be specified therein.

AMC1 ATCO.MED.B.001 Limitations to medical certificates

(a) An AeMC or AME may refer the decision on fitness of an applicant to the licensing authority in borderline cases or where fitness is in doubt.

(b) In cases where a fit assessment may only be considered with a limitation, the AeMC, AME or the licensing authority should evaluate the medical condition of the applicant with appropriate personnel from the air navigation service provider and other experts, if necessary.

(c) Entry of limitations

(1) Limitations TML, VDL, VML, VNL, CCL, HAL, RXO may be imposed by an AME or an AeMC.

(2) Limitations VXL and VXN should be imposed with advice of the air navigation service provider.

(3) Limitations SIC and SSL should only be imposed by the licensing authority.

(d) Removal of limitations

All limitations should only be removed by the licensing authority.

AMC2 ATCO.MED.B.001 Limitations to medical certificates

LIMITATION CODES

(a) The following abbreviations for limitations should be used on the medical certificate as applicable:

Code	Limitation
TML	Restriction of the period of validity of the medical certificate
VDL	Wear correction for defective distant vision and carry spare set of spectacles
VXL	Correction for defective distant vision depending on the working environment
VML	Wear correction for defective distant, intermediate and near vision and carry spare set of spectacles
VNL	Have correction available for defective near vision and carry spare set of spectacles
VXN	Correction for defective near vision; correction for defective distant vision depending on the working environment
RXO	Specialist ophthalmological examinations
CCL	Correction by means of contact lenses
HAL	Valid only when hearing aids are worn
SIC	Specific medical examination(s)
SSL	Special restrictions as specified

(b) The abbreviations for the limitation codes should be explained to the holder of a medical certificate as follows:

(1) TML — Time limitation

The period of validity of the medical certificate is limited to the duration as shown on the medical certificate. This period of validity commences on the date of the aero-medical examination. Any period of validity remaining on the previous medical certificate is no longer valid. The holder of a medical certificate should present him/herself for reassessment or examination when advised and should follow any medical recommendations.

(2) VDL — Wear corrective lenses and carry a spare set of spectacles

Correction for defective distant vision: whilst exercising the privileges of the licence, the holder of a medical certificate should wear spectacles or contact lenses that correct for defective distant vision as examined and approved by the AeMC or AME. Contact lenses may not be worn until cleared to do so by an AeMC or AME. A spare set of spectacles, approved by the AeMC or AME, should be readily available.

(3) VXL — Correction for defective distant vision depending on the working environment

Correction for defective distant vision does not have to be worn if the air traffic controller's visual working environment is in the area of up to 100 cm. Applicants who do not meet the uncorrected distant visual acuity requirement but meet the visual acuity requirement for intermediate and near vision without correction and whose visual working environment is only the intermediate and near vision area (up to 100 cm) may work without corrective lenses.

(4) VML — Wear multifocal spectacles and carry a spare set of spectacles

Correction for defective distant, intermediate and near vision: whilst exercising the privileges of the licence, the holder of a medical certificate should wear spectacles that correct for defective distant, intermediate and near vision as examined and approved by the AeMC or AME. Contact lenses or full-frame spectacles, when either correct for near vision only, may not be worn.

(5) VNL — Have available corrective spectacles and a spare set of spectacles

Correction for defective near vision: whilst exercising the privileges of the licence, the holder of a medical certificate should have readily available spectacles that correct for defective near vision as examined and approved by the AeMC or AME. Contact lenses or full-frame spectacles, when either correct for near vision only, may not be worn.

(6) VXN — Have available corrective spectacles and a spare set of spectacles; correction for defective distant vision depending on the working environment.

Correction for defective distant vision does not have to be worn if the air traffic controller's visual working environment is in the area of up to 100 cm. Applicants who do not meet the uncorrected distant and uncorrected near visual acuity requirements, but meet the visual acuity requirement for intermediate vision without correction and whose visual working environment is only the intermediate and near vision area (up to 100 cm) should have readily available spectacles and a spare set that correct for defective near vision as examined and approved by the AeMC or AME. Contact lenses or full-frame spectacles, when either correct for near vision only, may not be worn.

(7) CCL — Wear contact lenses that correct for defective vision

Correction for defective distant vision: whilst exercising the privileges of the licence, the holder of a medical certificate should wear contact lenses that correct for defective distant vision, as examined and approved by the AeMC or AME. A spare set of similarly correcting spectacles shall be readily available for immediate use whilst exercising the privileges of the licence.

(8) RXO — Specialist ophthalmological examination(s)

Specialist ophthalmological examination(s), other than the examinations stipulated in this Part, are required for a significant reason.

(9) HAL — Hearing aid(s)

Whilst exercising the privileges of the licence, the holder of the medical certificate should use hearing aid(s) that compensate(s) for defective hearing as examined and approved by the AeMC or AME. A spare set of batteries should be available.

(10) SIC — Specific medical examination(s)

This limitation requires the AeMC or AME to contact the licensing authority before embarking upon renewal or revalidation aero-medical assessment. It is likely to concern a medical history of which the AME should be aware prior to undertaking the aero-medical assessment.

(11) SSL — Special restrictions as specified

This limitation may be considered when an individually specified limitation, not defined in this paragraph, is appropriate to mitigate an increased level of risk to the safe exercise of the privileges of the licence. The description of the SSL should be entered on the medical certificate or in a separate document to be carried with the medical certificate.

SECTION 2
SPECIFIC REQUIREMENTS FOR CLASS 3 MEDICAL CERTIFICATES

ATCO.MED.B.005 General

Applicants shall be free from any of the following that would entail a degree of functional incapacity which is likely to interfere with the safe performance of duties or could render the applicant likely to become suddenly unable to exercise the privileges of the licence safely:

(1) abnormality, congenital or acquired;

(2) active, latent, acute or chronic disease or disability;

(3) wound, injury or sequelae from operation;

(4) effect or side effect of any prescribed or non-prescribed therapeutic, diagnostic or preventive medication taken.

ATCO.MED.B.010 Cardiovascular system

(a) Examination:

(1) A standard 12-lead resting electrocardiogram (ECG) and report shall be completed at the examination for the initial issue of a medical certificate and then:

(i) every 4 years until the age of 30;

(ii) at all revalidation or renewal examinations thereafter; and

(iii) when clinically indicated.

(2) An extended cardiovascular assessment shall be completed:

(i) at the first revalidation or renewal examination after the age of 65;

(ii) every 4 years thereafter; and

(iii) when clinically indicated.

(3) Estimation of serum lipids, including cholesterol, shall be required at the examination for the initial issue of a medical certificate, at the first examination after having reached the age of 40, and when clinically indicated.

(b) Cardiovascular system — General:

(1) Applicants with any of the following conditions shall be assessed as unfit:

(i) aneurysm of the thoracic or supra-renal abdominal aorta before surgery;

(ii) significant functional or symptomatic abnormality of any of the heart valves;

(iii) heart or heart/lung transplantation.

(2) Applicants with an established history or diagnosis of any of the following conditions shall be referred to the licensing authority before a fit assessment may be considered:

(i) peripheral arterial disease before or after surgery;

(ii) aneurysm of the thoracic or supra-renal abdominal aorta after surgery;

(iii) aneurysm of the infra-renal abdominal aorta before or after surgery;

(iv) functionally insignificant cardiac valvular abnormalities;

(v) after cardiac valve surgery;

(vi) abnormality of the pericardium, myocardium or endocardium;

(vii) congenital abnormality of the heart, before or after corrective surgery;

(viii) recurrent vasovagal syncope;

(ix) arterial or venous thrombosis;

(x) pulmonary embolism;

(xi) cardiovascular condition requiring systemic anticoagulant therapy.

(c) Blood pressure:

(1) Blood pressure shall be recorded at each examination.

(2) The applicant's blood pressure shall be within normal limits.

(3) Applicants shall be assessed as unfit when:

(i) they have symptomatic hypotension; or

(ii) when their blood pressure at examination consistently exceeds 160 mmHg systolic and/or 95 mmHg diastolic, with or without treatment.

(4) The initiation of medication for the control of blood pressure shall require a period of temporary unfit assessment to establish the absence of significant side effects.

(d) Coronary artery disease:

(1) Applicants with any of the following conditions shall be assessed as unfit:

(i) symptomatic coronary artery disease;

(ii) symptoms of coronary artery disease controlled by medication.

(2) Applicants with any of the following conditions shall be referred to the licensing authority and undergo cardiological evaluation to exclude myocardial ischaemia before a fit assessment may be considered:

(i) suspected myocardial ischaemia;

(ii) asymptomatic minor coronary artery disease requiring no anti-anginal treatment.

(3) Applicants with a history or diagnosis of any of the following conditions shall be referred to the licensing authority and undergo a cardiological evaluation before a fit assessment may be considered:

(i) myocardial ischaemia;

(ii) myocardial infarction;

(iii) revascularisation and stenting for coronary artery disease.

(e) Rhythm/Conduction disturbances:

(1) Applicants for a class 3 medical certificate with any significant disturbance of cardiac conduction or rhythm, intermittent or established shall be referred to the licensing authority and undergo cardiological evaluation with satisfactory results before a fit assessment may be considered. These disturbances shall include any of the following:

(i) disturbance of supraventricular rhythm, including intermittent or established sinoatrial dysfunction, atrial fibrillation and/or flutter and asymptomatic sinus pauses;

(ii) complete left bundle branch block;

(iii) Mobitz type 2 atrioventricular block;

(iv) broad and/or narrow complex tachycardia;

(v) ventricular pre-excitation;

(vi) asymptomatic QT prolongation;

(vii) Brugada pattern on electrocardiography.

(2) Applicants with any of the conditions listed in points (i) to (viii) may be assessed as fit in the absence of any other abnormality and subject to satisfactory cardiological evaluation:

(i) incomplete bundle branch block;

(ii) complete right bundle branch block;

(iii) stable left axis deviation;

(iv) asymptomatic sinus bradycardia;

(v) asymptomatic sinus tachycardia;

(vi) asymptomatic isolated uniform supra-ventricular or ventricular ectopic complexes;

(vii) first degree atrioventricular block;

(viii) Mobitz type 1 atrioventricular block.

(3) Applicants with a history of any of the following conditions shall be referred to the licensing authority and undergo cardiological evaluation with satisfactory results before a fit assessment may be considered:

(i) ablation therapy;

(ii) pacemaker implantation.

(4) Applicants with any of the following conditions shall be assessed as unfit:

(i) symptomatic sinoatrial disease;

(ii) complete atrioventricular block;

(iii) symptomatic QT prolongation;

(iv) an automatic implantable defibrillating system;

(v) a ventricular anti-tachycardia pacemaker.

AMC1 ATCO.MED.B.010 Cardiovascular system

(a) Electrocardiography

(1) An exercise electrocardiogram (ECG) when required as part of a cardiovascular assessment should be symptom-limited and completed to a minimum of Bruce Stage IV or equivalent.

(2) Reporting of resting and exercise ECGs should be carried out by the AME or an appropriate specialist.

(b) General

(1) Cardiovascular risk factor assessment

(i) Serum/plasma lipid estimation is case finding and significant abnormalities should require investigation and management under the supervision of the AeMC or AME in consultation with the licensing authority if necessary.

(ii) An accumulation of risk factors (smoking, family history, lipid abnormalities, hypertension, etc.) should require cardiovascular evaluation by the AeMC or AME in consultation with the licensing authority if necessary.

(2) Extended cardiovascular assessment

(i) The extended cardiovascular assessment should be undertaken at an AeMC or by a cardiologist.

(ii) The extended cardiovascular assessment should include an exercise ECG or other test that will provide equivalent information.

(c) Peripheral arterial disease

Applicants with peripheral arterial disease, before or after surgery, should undergo satisfactory cardiological evaluation including an exercise ECG and 2D echocardiography. Further tests may be required which should show no evidence of myocardial ischaemia or significant coronary artery stenosis. A fit assessment may be considered provided:

(1) the exercise ECG is satisfactory; and

(2) there is no sign of significant coronary artery disease or evidence of significant atheroma elsewhere, and no functional impairment of the end organ supplied.

(d) Aortic aneurysm

(1) Applicants with an aneurysm of the infra-renal abdominal aorta may be assessed as fit following a satisfactory cardiological evaluation.

(2) Applicants may be assessed as fit after surgery for an aneurysm of the thoracic or abdominal aorta if the blood pressure and cardiovascular evaluation are satisfactory. Regular evaluations by a cardiologist should be carried out.

(e) Cardiac valvular abnormalities

(1) Applicants with previously unrecognised cardiac murmurs should require cardiological evaluation. If considered significant, further investigation should include at least 2D Doppler echocardiography.

(2) Applicants with minor cardiac valvular abnormalities may be assessed as fit by the licensing authority. Applicants with significant abnormality of any of the heart valves should be assessed as unfit.

(3) Aortic valve disease

(i) Applicants with bicuspid aortic valve may be assessed as fit if no other cardiac or aortic abnormality is demonstrated. Regular cardiological follow-up, including 2D Doppler echocardiography, may be required.

(ii) Applicants with mild aortic stenosis may be assessed as fit. Annual cardiological follow-up may be required and should include 2D Doppler echocardiography.

(iii) Applicants with aortic regurgitation may be assessed as fit only if regurgitation is minor and there is no evidence of volume overload. There should be no demonstrable abnormality of the ascending aorta on 2D Doppler echocardiography. Cardiological follow-up including 2D Doppler echocardiography may be required.

(4) Mitral valve disease

(i) Applicants with rheumatic mitral stenosis may only be assessed as fit in favourable cases after cardiological evaluation including 2D echocardiography.

(ii) Applicants with uncomplicated minor regurgitation may be assessed as fit. Regular cardiological follow-up including 2D echocardiography may be required.

(iii) Applicants with mitral valve prolapse and mild mitral regurgitation may be assessed as fit.

(iv) Applicants with evidence of volume overloading of the left ventricle demonstrated by increased left ventricular end-diastolic diameter should be assessed as unfit.

(f) Valvular surgery

Applicants with cardiac valve replacement/repair should be assessed as unfit. After a satisfactory cardiological evaluation, fit assessment may be considered.

(1) Asymptomatic applicants may be assessed as fit by the licensing authority six months after valvular surgery subject to:

(i) normal valvular and ventricular function as judged by 2D Doppler echocardiography;

(ii) satisfactory symptom-limited exercise ECG or equivalent;

(iii) demonstrated absence of coronary artery disease unless this has been satisfactorily treated by re-vascularisation;

(iv) no cardioactive medication is required;

(v) annual cardiological follow-up to include an exercise ECG and 2D Doppler echocardiography. Longer periods may be acceptable once a stable condition has been confirmed by cardiological evaluations.

(2) Applicants with implanted mechanical valves may be assessed as fit subject to documented exemplary control of their anti-coagulant therapy. Age factors should form part of the risk assessment.

(g) Thromboembolic disorders

Applicants with arterial or venous thrombosis or pulmonary embolism should be assessed as unfit during the first six months of anticoagulation. A fit assessment, with a limitation if necessary, may be considered by the licensing authority after six months of stable anticoagulation. Anticoagulation should be considered stable if, within the last six months, at least five international normalised ratio (INR) values are documented, of which at least four are within the INR target range and the haemorrhagic risk is acceptable. In cases of anticoagulation medication not requiring INR monitoring, a fit assessment may be considered after review by the licensing authority after a period of three months. Applicants with pulmonary embolism should also be evaluated by a cardiologist. Following cessation of anticoagulant therapy, for any indication, applicants should undergo a reassessment by the licensing authority.

(h) Other cardiac disorders

(1) Applicants with a primary or secondary abnormality of the pericardium, myocardium or endocardium should be assessed as unfit. A fit assessment may be considered following complete resolution and satisfactory cardiological evaluation which may include 2D Doppler echocardiography, exercise ECG, 24-hour ambulatory ECG, and/or myocardial perfusion scan or equivalent test. Coronary angiography may be indicated. Regular cardiological follow-up may be required.

(2) Applicants with a congenital abnormality of the heart should be assessed as unfit. Applicants following surgical correction or with minor abnormalities that are functionally unimportant may be assessed as fit following cardiological assessment. No cardioactive medication is acceptable. Investigations may include 2D Doppler echocardiography, exercise ECG and 24-hour ambulatory ECG. Regular cardiological follow-up may be required.

(i) Syncope

(1) Applicants with a history of recurrent episodes of syncope should be assessed as unfit. A fit assessment may be considered after a sufficient period of time without recurrence provided cardiological evaluation is satisfactory.

(2) A cardiological evaluation should include:

(i) a satisfactory symptom exercise ECG. If the exercise ECG is abnormal, a myocardial perfusion scan or equivalent test should be required;

(ii) a 2D Doppler echocardiogram showing neither significant selective chamber enlargement nor structural or functional abnormality of the heart, valves or myocardium;

(iii) a 24-hour ambulatory ECG recording showing no conduction disturbance, complex or sustained rhythm disturbance or evidence of myocardial ischaemia;

(iv) a tilt test carried out to a standard protocol showing no evidence of vasomotor instability.

(3) Neurological review should be required.

(j) Blood pressure

(1) Anti-hypertensive treatment should be agreed by the licensing authority. Medication may include:

(i) non-loop diuretic agents;

(ii) Angiotensin Converting Enzyme (ACE) inhibitors;

(iii) angiotensin II receptor blocking agents;

(iv) long-acting slow channel calcium blocking agents;

(v) certain (generally hydrophilic) beta-blocking agents.

(2) Following initiation of medication for the control of blood pressure, applicants should be re-assessed to verify that the treatment is compatible with the safe exercise of the privileges of the licence.

(k) Coronary artery disease

(1) Applicants with chest pain of an uncertain cause should undergo a full investigation before a fit assessment may be considered. Applicants with angina pectoris should be assessed as unfit, whether or not it is abolished by medication.

(2) Applicants with suspected asymptomatic coronary artery disease should undergo a cardiological evaluation including exercise ECG. Further tests (myocardial perfusion scanning, stress echocardiography, coronary angiography or equivalent) may be required, which should show no evidence of myocardial ischaemia or significant coronary artery stenosis.

(3) After an ischaemic cardiac event, including revascularisation, applicants without symptoms should have reduced any vascular risk factors to an appropriate level. Medication, when used to control cardiac symptoms, is not acceptable. All applicants should be on acceptable secondary prevention treatment.

(i) A coronary angiogram obtained around the time of, or during, the ischaemic myocardial event and a complete, detailed clinical report of the ischaemic event and of any operative procedures should be available.

(A) there should be no stenosis more than 50 % in any major untreated vessel, in any vein or artery graft or at the site of an angioplasty/stent, except in a vessel subtending a myocardial infarction;

(B) the whole coronary vascular tree should be assessed as satisfactory by a cardiologist, and particular attention should be paid to multiple stenoses and/or multiple revascularisations;

(C) an untreated stenosis greater than 30 % in the left main or proximal left anterior descending coronary artery should not be acceptable.

(ii) At least six months from the ischaemic myocardial event, including revascularisation, the following investigations should be completed:

(A) an exercise ECG showing neither evidence of myocardial ischaemia nor rhythm or conduction disturbance;

(B) an echocardiogram or equivalent test showing satisfactory left ventricular function with no important abnormality of wall motion (such as dyskinesia or akinesia) and a left ventricular ejection fraction of 50 % or more;

(C) in cases of angioplasty/stenting, a myocardial perfusion scan or equivalent test, which should show no evidence of reversible myocardial ischaemia. If there is any doubt about myocardial perfusion, in other cases (infarction or bypass grafting), a perfusion scan should also be required;

(D) further investigations, such as a 24-hour ECG, may be necessary to assess the risk of any significant rhythm disturbance.

(iii) Follow-up should be conducted annually (or more frequently, if necessary) to ensure that there is no deterioration of the cardiovascular status. It should include a cardiological evaluation, exercise ECG and cardiovascular risk assessment. Additional investigations may be required.

(iv) After coronary artery vein bypass grafting, a myocardial perfusion scan or equivalent test should be performed on clinical indication, and in all cases within five years from the procedure.

(v) In all cases, coronary angiography, or an equivalent test, should be considered at any time if symptoms, signs or non-invasive tests indicate myocardial ischaemia.

(vi) Applicants may be assessed as fit after successful completion of the three-month or subsequent review.

(l) Rhythm and conduction disturbances

(1) Applicants with any significant rhythm or conduction disturbance may be assessed as fit after cardiological evaluation and with appropriate follow-up. Such evaluation should include:

(i) exercise ECG which should show no significant abnormality of rhythm or conduction, and no evidence of myocardial ischaemia. Withdrawal of cardioactive medication prior to the test should be required;

(ii) 24-hour ambulatory ECG which should demonstrate no significant rhythm or conduction disturbance;

(iii) 2D Doppler echocardiogram which should show no significant selective chamber enlargement or significant structural or functional abnormality, and a left ventricular ejection fraction of at least 50 %.

Further evaluation may include:

(iv) 24-hour ECG recording repeated as necessary;

(v) electrophysiological study;

(vi) myocardial perfusion imaging or equivalent test;

(vii) cardiac magnetic resonance imaging (MRI) or equivalent test;

(viii) coronary angiogram or equivalent test.

(2) Applicants with supraventricular or ventricular ectopic complexes on a resting ECG may require no further evaluation, provided the frequency can be shown to be no greater than one per minute, for example on an extended ECG strip.

Applicants with asymptomatic isolated uniform ventricular ectopic complexes may be assessed as fit, but frequent or complex forms require full cardiological evaluation.

(3) Where anticoagulation is needed for a rhythm disturbance, a fit assessment may be considered if the haemorrhagic risk is acceptable and the anticoagulation is stable. Anticoagulation should be considered stable if, within the last six months, at least five INR values are documented, of which at least four are within the INR target range. In cases of anticoagulation medication not requiring INR monitoring, a fit assessment with an appropriate limitation may be considered after review by the licensing authority after a period of three months.

(4) Ablation

(i) Applicants who have undergone ablation therapy should be assessed as unfit for a minimum period of two months.

(ii) A fit assessment may be considered following successful catheter ablation provided an electrophysiological study (EPS) demonstrates satisfactory control has been achieved.

(iii) Where EPS is not performed, longer periods of unfitness and cardiological follow-up should be considered.

(iv) Follow-up should include a cardiological review.

(5) Supraventricular arrhythmias

Applicants with significant disturbance of supraventricular rhythm, including sinoatrial dysfunction, whether intermittent or established, should be assessed as unfit. A fit assessment may be considered if cardiological evaluation is satisfactory.

(i) For initial applicants with atrial fibrillation/flutter, a fit assessment should be limited to those with a single episode of arrhythmia which is considered to be unlikely to recur.

(ii) For revalidation, applicants may be assessed as fit if cardiological evaluation is satisfactory and the stroke risk is sufficiently low. A fit assessment may be considered after a period of stable anticoagulation as prophylaxis, after review by the licensing authority. Anticoagulation should be considered stable if, within the last six months, at least five INR values are documented, of which at least four are within the INR target range. In cases of anticoagulation medication not requiring INR monitoring, a fit assessment may be considered after review by the licensing authority after a period of three months.

(iii) Applicants with asymptomatic sinus pauses up to 2.5 seconds on a resting ECG may be assessed as fit if exercise ECG, 2D echocardiography and 24-hour ambulatory ECG are satisfactory.

(iv) Applicants with symptomatic sino-atrial disease should be assessed as unfit.

(6) Mobitz type 2 atrio-ventricular block

Applicants with Mobitz type 2 AV block may be assessed as fit after a full cardiological evaluation confirms the absence of distal conducting tissue disease.

(7) Complete right bundle branch block

Applicants with complete right bundle branch block should require cardiological evaluation on first presentation.

(8) Complete left bundle branch block

A fit assessment may be considered as follows:

(i) Initial applicants may be assessed as fit after full cardiological evaluation showing no pathology. Depending on the clinical situation, a period of stability may be required.

(ii) Applicants for revalidation or renewal of a medical certificate with a de-novo left bundle branch block may be assessed as fit after cardiological evaluation showing no pathology. A period of stability may be required.

(iii) A cardiological evaluation should be required after 12 months in all cases.

(9) Ventricular pre-excitation

Applicants with pre-excitation may be assessed as fit if they are asymptomatic, and an electrophysiological study, including an adequate drug-induced autonomic stimulation protocol, reveals no inducible re-entry tachycardia and the existence of multiple pathways is excluded. Cardiological follow-up should be required including a 24-hour ambulatory ECG recording showing no tendency to symptomatic or asymptomatic tachy-arrhythmia.

(10) Pacemaker

Applicants with a subendocardial pacemaker may be assessed as fit three months after insertion provided:

(i) there is no other disqualifying condition;

(ii) bipolar lead systems programmed in bipolar mode without automatic mode change have been used;

(iii) that the applicant is not pacemaker dependent;

(iv) regular cardiological follow-up should include a symptom-limited exercise ECG that shows no abnormality or evidence of myocardial ischaemia.

(11) QT prolongation

Applicants with asymptomatic QT-prolongation may be assessed as fit subject to a satisfactory cardiological evaluation.

(12) Brugada pattern on electrocardiography

Applicants with a Brugada pattern Type 1 should be assessed as unfit. Applicants with Type 2 or Type 3 may be assessed as fit, with limitations as appropriate, subject to satisfactory cardiological evaluation.

GM1 ATCO.MED.B.010 Cardiovascular system

MITRAL VALVE DISEASE

(a) Minor regurgitation should have evidence of no thickened leaflets or flail chordae and left atrial internal diameter of less than or equal to 4.0 cm.

(b) The following may indicate severe regurgitation:

(1) LV internal diameter (diastole) > 6.0 cm; or

(2) LV internal diameter (systole) > 4.1 cm; or

(3) Left atrial internal diameter > 4.5 cm.

(c) Doppler indices, such as width of jet, backwards extension and whether there is flow reversal in the pulmonary veins may be helpful in assessing severity of regurgitation.

GM2 ATCO.MED.B.010 Cardiovascular system

VENTRICULAR PRE-EXCITATION

(a) Asymptomatic applicants with pre-excitation may be assessed as fit at revalidation with an Operational Multi-pilot Limitation (OML) if they meet the following criteria:

(1) no inducible re-entry;

(2) refractory period > 300 ms;

(3) no induced atrial fibrillation.

(b) There should be no evidence of multiple accessory pathways.

GM3 ATCO.MED.B.010 Cardiovascular system

COMPLETE LEFT BUNDLE BRANCH BLOCK

Left bundle branch block is more commonly associated with coronary artery disease and, thus, requires more in-depth investigation, which may be invasive.

GM4 ATCO.MED.B.010 Cardiovascular system

PACEMAKER

(a) Scintigraphy may be helpful in the presence of conduction disturbance/paced complexes in the resting ECG.

(b) Experience has shown that any failures of pacemakers are most likely to occur in the first three months after being fitted. Therefore, a fit assessment should not be considered before this period has elapsed.

(c) It is known that certain operational equipment may interfere with the performance of the pacemaker. The type of pacemaker used, therefore, should have been tested to ensure it does not suffer from interference in the operational environment. Supporting data and a performance statement to this effect should be available from the supplier.

GM5 ATCO.MED.B.010 Cardiovascular system

ANTICOAGULATION

Applicants and licence holders taking anticoagulant medication which requires monitoring with INR testing, should measure their INR on a 'near patient' testing system within 12 hours prior to starting a shift pattern and then at least every three days during the shift pattern. The privileges of the licence should only be exercised if the INR is within the target range. The INR result should be recorded and the results should be reviewed at each aero-medical assessment.

ATCO.MED.B.015 Respiratory system

(a) Applicants with significant impairment of pulmonary function shall be referred to the licensing authority for the aero-medical assessment. A fit assessment may be considered once pulmonary function has recovered and is satisfactory.

(b) Examination:

Pulmonary function tests are required at the initial examination and on clinical indication.

(c) Applicants with a history or established diagnosis of asthma requiring medication shall undergo a satisfactory respiratory evaluation. A fit assessment may be considered if the applicant is asymptomatic and treatment does not affect safety.

(d) Applicants with a history or established diagnosis in any of the following shall be referred to the licensing authority and undergo respiratory evaluation with a satisfactory result before a fit assessment may be considered:

(1) active inflammatory disease of the respiratory system;

(2) active sarcoidosis;

(3) pneumothorax;

(4) sleep apnoea syndrome;

(5) major thoracic surgery;

(6) chronic obstructive pulmonary disease;

(7) lung transplantation.

AMC1 ATCO.MED.B.015 Respiratory system

(a) Examination

(1) Spirometric examination is required for initial examination. An FEV1/FVC ratio less than 70 % should require evaluation by a specialist in respiratory disease before a fit assessment can be considered.

(2) Posterior/anterior chest radiography may be required at initial, revalidation or renewal examinations when indicated on clinical or epidemiological grounds.

(b) Chronic obstructive airways disease

Applicants with chronic obstructive airways disease should be assessed as unfit. Applicants with only minor impairment of their pulmonary function may be assessed as fit after specialist respiratory evaluation. Applicants with pulmonary emphysema may be assessed as fit following specialist evaluation showing that the condition is stable and not causing significant symptoms.

(c) Asthma

Applicants with asthma requiring medication or experiencing recurrent attacks of asthma may be assessed as fit if the asthma is considered stable with satisfactory pulmonary function tests and medication is compatible with the safe execution of the privileges of the licence. Use of low dose systemic steroids may be acceptable.

(d) Inflammatory disease

(1) For applicants with active inflammatory disease of the respiratory system, a fit assessment may be considered when the condition has resolved without sequelae and no medication is required.

(2) Applicants with chronic inflammatory diseases may be assessed as fit following specialist evaluation showing mild disease with acceptable pulmonary function test and medication compatible with the safe execution of the privileges of the licence.

(e) Sarcoidosis

(1) Applicants with active sarcoidosis should be assessed as unfit. Specialist evaluation should be undertaken with respect to the possibility of systemic, particularly cardiac, involvement. A fit assessment may be considered if no medication is required, and the disease is limited to hilar lymphadenopathy and inactive. Use of low dose systemic steroids may be acceptable.

(2) Applicants with cardiac or neurological sarcoid should be assessed as unfit.

(f) Pneumothorax

Applicants with a spontaneous pneumothorax should be assessed as unfit. A fit assessment may be considered:

(1) six weeks after the event provided full recovery from a single event has been confirmed in a full respiratory evaluation including a CT scan or equivalent;

(2) following surgical intervention in the case of a recurrent pneumothorax provided there is satisfactory recovery.

(g) Thoracic surgery

(1) Applicants requiring thoracic surgery should be assessed as unfit until such time as the effects of the operation are no longer likely to interfere with the safe exercise of the privileges of the licence.

(2) A fit assessment may be considered after satisfactory recovery and full respiratory evaluation including a CT scan or equivalent. The underlying pathology which necessitated the surgery should be considered in the aero-medical assessment.

(h) Sleep apnoea syndrome/sleep disorder

(1) Applicants with unsatisfactorily treated sleep apnoea syndrome and suffering from excessive daytime sleepiness should be assessed as unfit.

(2) A fit assessment may be considered subject to the extent of symptoms, including vigilance, and satisfactory treatment. ATCO operational experience, sleep apnoea syndrome/sleep disorder education and work place considerations are essential components of the aero-medical assessment.

ATCO.MED.B.020 Digestive system

(a) Applicants with any sequelae of disease or surgical intervention in any part of the digestive tract or its adnexa likely to cause incapacitation, in particular any obstruction due to stricture or compression, shall be assessed as unfit.

(b) Applicants shall be free from herniae that might give rise to incapacitating symptoms.

(c) Applicants with disorders of the gastrointestinal system, including those in points (1) to (5) may be assessed as fit subject to a satisfactory gastroenterological evaluation after successful treatment or full recovery after surgery:

(1) recurrent dyspeptic disorder requiring medication;

(2) pancreatitis;

(3) symptomatic gallstones;

(4) an established diagnosis or history of chronic inflammatory bowel disease;

(5) after surgical operation on the digestive tract or its adnexa, including surgery involving total or partial excision or a diversion of any of these organs.

AMC1 ATCO.MED.B.020 Digestive system

(a) Oesophageal varices

Applicants with oesophageal varices should be assessed as unfit.

(b) Pancreatitis

(1) Applicants with pancreatitis should be assessed as unfit. A fit assessment may be considered if the cause (e.g. gallstone, other obstruction, medication) is removed.

(2) Alcohol may be a cause of dyspepsia and pancreatitis. If considered appropriate, a full evaluation of its use or misuse should be undertaken.

(c) Gallstones

(1) Applicants with a single large gallstone may be assessed as fit after evaluation.

(2) Applicants with multiple gallstones may be assessed as fit while awaiting treatment provided the symptoms are unlikely to interfere with the safe exercise of the privileges of the licence.

(d) Inflammatory bowel disease

Applicants with an established diagnosis or history of chronic inflammatory bowel disease may be assessed as fit if the disease is in established stable remission, and only minimal, if any, medication is being taken. Regular follow-up should be required.

(e) Dyspepsia

Applicants with recurrent dyspepsia requiring medication should be investigated by internal examination including radiologic or endoscopic examination. Laboratory testing should include haemoglobin assessment and faecal examination. Any demonstrated ulceration or significant inflammation requires evidence of recovery before a fit assessment may be considered.

(f) Digestive tract and abdominal surgery

Applicants who have undergone a surgical operation on the digestive tract or its adnexa, including a total or partial excision or a diversion of any of these organs, should be assessed as unfit. A fit assessment may be considered if recovery is complete, the applicant is asymptomatic and the risk of secondary complication or recurrence is minimal.

ATCO.MED.B.025 Metabolic and endocrine systems

(a) Applicants with metabolic, nutritional or endocrine dysfunction may be assessed as fit subject to demonstrated stability of the condition and satisfactory aero-medical evaluation.

(b) Diabetes mellitus:

(1) Applicants with diabetes mellitus requiring insulin shall be assessed as unfit.

(2) Applicants with diabetes mellitus requiring medication other than insulin for blood sugar control shall be referred to the licensing authority. A fit assessment may be considered if it can be demonstrated that blood sugar control has been achieved and is stable.

AMC1 ATCO.MED.B.025 Metabolic and endocrine system

(a) Metabolic, nutritional or endocrine dysfunction

Applicants with metabolic, nutritional or endocrine dysfunction may be assessed as fit if the condition is asymptomatic, clinically compensated and stable with or without replacement therapy, and regularly reviewed by an appropriate specialist.

(b) Obesity

(1) Applicants with a Body Mass Index $\geq$ 35 may be assessed as fit only if the excess weight is not likely to interfere with the safe exercise of the privileges of the licence and a satisfactory cardiovascular risk review and evaluation of the possibility of sleep apnoea syndrome has been undertaken.

(2) Functional testing in the working environment may be necessary before a fit assessment may be considered.

(c) Thyroid dysfunction

Applicants with hyperthyroidism or hypothyroidism should attain a stable euthyroid state before a fit assessment may be considered.

(d) Abnormal glucose metabolism

Glycosuria and abnormal blood glucose levels require investigation. A fit assessment may be considered if normal glucose tolerance is demonstrated (low renal threshold) or impaired glucose tolerance without diabetic pathology is fully controlled by diet and regularly reviewed.

(e) Diabetes mellitus

(1) The following medication, alone and in combination, may be acceptable for control of type 2 diabetes:

(i) alpha-glucosidase inhibitors;

(ii) medication that acts on the incretin pathway;

(iii) biguanides.

(2) A fit assessment may be considered after evaluation of the operational environment, including means of glucose monitoring/management whilst performing rated duties, and with demonstrated exemplary glycaemic control.

(3) Annual follow-up by a specialist should be required including demonstration of absence of complications, good glycaemic control demonstrated by six-monthly HbA1c measurements, and a normal exercise tolerance test.

ATCO.MED.B.030 Haematology

(a) Blood testing, if any, shall be determined by the AME or AeMC taking into account the medical history and following the physical examination.

(b) Applicants with a haematological condition, such as:

(1) coagulation, haemorrhagic or thrombotic disorder;

(2) chronic leukaemia;

(3) abnormal haemoglobin, including, but not limited to, anaemia, erythrocytosis or haemoglobinopathy;

(4) significant lymphatic enlargement;

(5) enlargement of the spleen;

shall be referred to the licensing authority. A fit assessment may be considered subject to satisfactory aero-medical evaluation.

(c) Applicants suffering from acute leukaemia shall be assessed as unfit.

AMC1 ATCO.MED.B.030 Haematology

(a) Anaemia

(1) Anaemia demonstrated by a reduced haemoglobin level should require investigation. A fit assessment may be considered in cases where the primary cause has been treated (e.g. iron or B12 deficiency) and the haemoglobin or haematocrit has stabilised at a satisfactory level. The recommended range of the haemoglobin level is 11–17 g/dl.

(2) Anaemia which is unamenable to treatment should be disqualifying.

(b) Haemoglobinopathy

Applicants with a haemoglobinopathy should be assessed as unfit. A fit assessment may be considered where minor thalassaemia, sickle cell disease or other haemoglobinopathy is diagnosed without a history of crises and where full functional capability is demonstrated.

(c) Coagulation disorders

(1) Significant coagulation disorders require investigation. A fit assessment may be considered if there is no history of significant bleeding or clotting episodes and the haematological data indicate that it is safe to do so.

(2) If anticoagulant therapy is prescribed, AMC1 ATCO.MED.B.010(g) should be followed.

(d) Disorders of the lymphatic system

Lymphatic enlargement requires investigation. A fit assessment may be considered in cases of an acute infectious process which is fully recovered, or Hodgkin's lymphoma, or other lymphoid malignancy which has been treated and is in full remission, or that requires minimal or no treatment.

(e) Leukaemia

(1) Applicants with acute leukaemia should be assessed as unfit. Once in established remission, applicants may be assessed as fit.

(2) Applicants with chronic leukaemia should be assessed as unfit. A fit assessment may be considered after remission and a period of demonstrated stability.

(3) Applicants with a history of leukaemia should have no history of central nervous system involvement and no continuing side effects from treatment which are likely to interfere with the safe exercise of the privileges of the licence. Haemoglobin and platelet levels should be satisfactory.

(4) Regular follow-up is required in all cases of leukaemia.

(f) Splenomegaly

Splenomegaly requires investigation. A fit assessment may be considered if the enlargement is minimal, stable and no associated pathology is demonstrated, or if the enlargement is minimal and associated with another acceptable condition.

GM1 ATCO.MED.B.030 Haematology

HODGKIN'S LYMPHOMA

Due to potential side effects of specific chemotherapeutic agents, the precise regime utilised should be taken into account.

GM2 ATCO.MED.B.030 Haematology

CHRONIC LEUKAEMIA

A fit assessment may be considered if the chronic leukaemia has been diagnosed as:

(a) lymphatic at stages 0, I, and possibly II without anaemia and minimal treatment; or

(b) stable 'hairy cell' leukaemia with normal haemoglobin and platelets.

GM3 ATCO.MED.B.030 Haematology

SPLENOMEGALY

(a) Splenomegaly should not preclude a fit assessment, but should be assessed on an individual basis.

(b) Associated pathology of splenomegaly is e.g. treated chronic malaria.

(c) An acceptable condition associated with splenomegaly is e.g. Hodgkin's lymphoma in remission.

ATCO.MED.B.035 Genitourinary system

(a) Urinalysis shall form part of every aero-medical examination. The urine shall contain no abnormal element considered to be of pathological significance.

(b) Applicants with any sequelae of disease or surgical procedures on the genitourinary system or its adnexa likely to cause incapacitation, in particular any obstruction due to stricture or compression, shall be assessed as unfit.

(c) Applicants with a genitourinary disorder, such as:

(1) renal disease;

(2) one or more urinary calculi;

may be assessed as fit subject to satisfactory renal/urological evaluation.

(d) Applicants who have undergone:

(1) a major surgical operation in the genitourinary system or its adnexa involving a total or partial excision or a diversion of its organs; or

(2) major urological surgery;

shall be referred to the licensing authority for an aero-medical assessment after full recovery before a fit assessment may be considered.

AMC1 ATCO.MED.B.035 Genitourinary system

(a) Abnormal urinalysis

Any abnormal finding on urinalysis requires investigation. This investigation should include proteinuria, haematuria and glycosuria.

(b) Renal disease

(1) Applicants presenting with any signs of renal disease should be assessed as unfit. A fit assessment may be considered if blood pressure is satisfactory and renal function is acceptable.

(2) Applicants requiring dialysis should be assessed as unfit.

(c) Urinary calculi

(1) Applicants with an asymptomatic calculus or a history of renal colic require investigation. A fit assessment may be considered after successful treatment for a calculus and with appropriate follow-up.

(2) Residual calculi should be disqualifying unless they are in a location where they are unlikely to move and give rise to symptoms.

(d) Renal and urological surgery

(1) Applicants who have undergone a major surgical operation on the genitourinary system or its adnexa involving a total or partial excision or a diversion of any of its organs should be assessed as unfit until recovery is complete, the applicant is asymptomatic and the risk of secondary complications is minimal.

(2) Applicants with compensated nephrectomy without hypertension or uraemia may be assessed as fit.

(3) Applicants who have undergone renal transplantation may be considered for a fit assessment if it is fully compensated and tolerated with only minimal immuno-suppressive therapy after at least 12 months.

(4) Applicants who have undergone total cystectomy may be considered for a fit assessment if there is satisfactory urinary function, no infection and no recurrence of primary pathology.

ATCO.MED.B.040 Infectious disease

(a) Applicants who are HIV positive shall be referred to the licensing authority and may be assessed as fit subject to satisfactory specialist evaluation and provided the licensing authority has sufficient evidence that the therapy does not compromise the safe exercise of the privileges of the licence.

(b) Applicants diagnosed with or presenting symptoms of infectious disease such as:

(1) acute syphilis;

(2) active tuberculosis;

(3) infectious hepatitis;

(4) tropical diseases;

shall be referred to the licensing authority for an aero-medical assessment. A fit assessment may be considered after full recovery and specialist evaluation provided the licensing authority has sufficient evidence that the therapy does not compromise the safe exercise of the privileges of the licence.

AMC1 ATCO.MED.B.040 Infectious disease

(a) Infectious disease — General

In cases of infectious disease, consideration should be given to a history of, or clinical signs indicating, underlying impairment of the immune system.

(b) Tuberculosis

(1) Applicants with active tuberculosis should be assessed as unfit. A fit assessment may be considered following completion of therapy.

(2) Applicants with quiescent or healed lesions may be assessed as fit. Specialist evaluation should consider the extent of the disease, the treatment required and possible side effects of medication.

(c) Syphilis

Applicants with acute syphilis should be assessed as unfit. A fit assessment may be considered in the case of those fully treated and recovered from the primary and secondary stages.

(d) HIV positivity

(1) Applicants who are HIV positive may be assessed as fit if a full investigation provides no evidence of HIV associated diseases that might give rise to incapacitating symptoms. Frequent review of the immunological status and neurological evaluation by an appropriate specialist should be carried out. A cardiological review may also be required depending on medication.

(2) Applicants with an AIDS defining condition should be assessed as unfit except in individual cases for revalidation of a medical certificate after complete recovery and dependent on the review.

(3) The aero-medical assessment of individual cases under (1) and (2) should be dependent on the absence of symptoms or signs of the disease and the acceptability of serological markers. Treatment should be evaluated by a specialist on an individual basis for its appropriateness and any side effects.

(e) Infectious hepatitis

Applicants with infectious hepatitis should be assessed as unfit. A fit assessment may be considered once the applicant has become asymptomatic after treatment and specialist evaluation. Regular review of the liver function should be carried out.

GM1 ATCO.MED.B.040 Infectious disease

HIV INFECTION

(a) There is no requirement for routine testing of HIV status, but testing may be carried out on clinical indication.

(b) If HIV positivity has been confirmed, a process of rigorous aero-medical assessment and follow-up should be introduced to enable individuals to continue working provided their ability to exercise their licenced privileges to the required level of safety is not impaired. The operational environment should be considered in the decision-making.

ATCO.MED.B.045 Obstetrics and gynaecology

(a) Applicants who have undergone a major gynaecological operation shall be assessed as unfit until full recovery.

(b) Pregnancy:

In the case of pregnancy, if the AeMC or AME considers that the licence holder is fit to exercise her privileges, he/she shall limit the validity period of the medical certificate to the end of the 34th week of gestation. The licence holder shall undergo a revalidation aero-medical examination and assessment after full recovery following the end of the pregnancy.

AMC1 ATCO.MED.B.045 Obstetrics and gynaecology

(a) Gynaecological surgery

Applicants who have undergone a major gynaecological operation should be assessed as unfit until recovery is complete, the applicant is asymptomatic and the risk of secondary complications or recurrence is minimal.

(b) Pregnancy

(1) A pregnant licence holder may be assessed as fit during the first 34 weeks of gestation provided obstetric evaluation continuously indicates a normal pregnancy.

(2) The AeMC or AME or the licensing authority should provide written advice to the applicant and the supervising physician regarding potentially significant complications of pregnancy which may negatively influence the safe exercise of the privileges of the licence.

ATCO.MED.B.050 Musculoskeletal system

(a) Applicants shall have satisfactory functional use of the musculoskeletal system to enable them to safely exercise the privileges of the licence.

(b) Applicants with static or progressive musculoskeletal or rheumatologic conditions likely to interfere with the safe exercise of the licence privileges shall be referred to the licensing authority. A fit assessment may be considered after satisfactory specialist evaluation.

AMC1 ATCO.MED.B.050 Musculoskeletal system

(a) Applicants with any significant sequelae from disease, injury or congenital abnormality affecting the bones, joints, muscles or tendons with or without surgery require full evaluation prior to a fit assessment.

(b) Abnormal physique, including obesity, or muscular weakness may require aero-medical assessment and particular attention should be paid to an aero-medical assessment in the working environment.

(c) Locomotor dysfunction, amputations, malformations, loss of function and progressive osteoarthritic disorders should be assessed on an individual basis in conjunction with the appropriate operational expert with a knowledge of the complexity of the tasks of the applicant.

(d) Applicants with inflammatory, infiltrative or degenerative disease of the musculoskeletal system may be assessed as fit provided the condition is in remission and the medication is acceptable.

ATCO.MED.B.055 Psychiatry

(a) Applicants with a mental or behavioural disorder due to alcohol or other use or misuse of psychoactive substances, including recreational substances with or without dependency, shall be assessed as unfit until after a period of documented sobriety or freedom from psychoactive substance use or misuse and subject to satisfactory psychiatric evaluation after successful treatment. Applicants shall be referred to the licensing authority.

(b) Applicants with a psychiatric condition such as:

(1) mood disorder;

(2) neurotic disorder;

(3) personality disorder;

(4) mental or behavioural disorder;

shall undergo satisfactory psychiatric evaluation before a fit assessment may be considered. Applicants shall be referred to the licensing authority for the assessment of their medical fitness.

(c) Applicants with a history of a single or repeated acts of deliberate self-harm shall be assessed as unfit. Applicants shall be referred to the licensing authority and shall undergo satisfactory psychiatric evaluation before a fit assessment may be considered.

(d) Applicants with an established history or clinical diagnosis of schizophrenia, schizotypal, delusional disorder or mania shall be assessed as unfit.

AMC1 ATCO.MED.B.055 Psychiatry

(a) Disorders due to alcohol or other substance use

(1) A fit assessment may be considered after successful treatment, a period of documented sobriety or freedom from substance use, and review by a psychiatric specialist. The licensing authority, with the advice of the psychiatric specialist, should determine the duration of the period to be observed before a medical certificate can be issued.

(2) Depending on the individual case, treatment may include in-patient treatment of some weeks.

(3) Continuous follow-up, including blood testing and peer reports, may be required indefinitely.

(b) Mood disorder

Applicants with an established mood disorder should be assessed as unfit. After full recovery and after full consideration of an individual case, a fit assessment may be considered depending on the characteristics and gravity of the mood disorder. If stability on maintenance psychotropic medication is confirmed, a fit assessment with an appropriate limitation may be considered. If the dosage of the medication is changed, a further period of unfit assessment should be required. Regular specialist supervision should be required.

(c) Psychotic disorder

Applicants with a history, or the occurrence, of a functional psychotic disorder should be assessed as unfit. A fit assessment may be considered if a cause can be unequivocally identified as one which is transient, has ceased and the risk of recurrence is minimal.

(d) Deliberate self-harm

Applicants who have carried out a single self-destructive action or repeated acts of deliberate self-harm should be assessed as unfit. A fit assessment may be considered after full consideration of an individual case which may require psychiatric or psychological evaluation. Neuropsychological evaluation may also be required.

ATCO.MED.B.060 Psychology

(a) Applicants who present with stress-related symptoms that are likely to interfere with their ability to exercise the privileges of the licence safely shall be referred to the licensing authority. A fit assessment may only be considered after a psychological and/or psychiatric evaluation has demonstrated that the applicant has recovered from stress-related symptoms.

(b) A psychological evaluation may be required as part of, or complementary to, a specialist psychiatric or neurological examination.

AMC1 ATCO.MED.B.060 Psychology

(a) If a psychological evaluation is indicated, it should be carried out by a psychologist taking into account the ATC environment and the associated risks.

(b) Where there is established evidence that an applicant may have a psychological disorder, the applicant should be referred for psychological opinion and advice.

(c) Established evidence should be verifiable information from an identifiable source related to the mental fitness or personality of a particular individual. Sources for this information can be accidents or incidents, problems in training or competence assessments, behaviour or knowledge relevant to the safe exercise of the privileges of the licence.

(d) The psychological evaluation may include a collection of biographical data, the administration of aptitude, as well as personality tests and psychological interview.

(e) The psychologist should submit a written report to the AME, AeMC or licensing authority as appropriate, detailing his/her opinion and recommendation.

ATCO.MED.B.065 Neurology

(a) Applicants with an established history or clinical diagnosis of the following shall be assessed as unfit:

(1) epilepsy except in cases in point (b)(1) and (2);

(2) recurring episodes of disturbance of consciousness of uncertain cause;

(3) conditions with a high propensity for cerebral dysfunction.

(b) Applicants with an established history or clinical diagnosis of the following conditions shall be referred to the licensing authority and undergo further evaluation before a fit assessment may be considered:

(1) epilepsy without recurrence after the age of 5;

(2) epilepsy without recurrence and off all treatment for more than 10 years;

(3) epileptiform EEG abnormalities and focal slow waves;

(4) progressive or non-progressive disease of the nervous system;

(5) a single episode of disturbances or loss of consciousness;

(6) brain injury;

(7) spinal or peripheral nerve injury;

(8) disorders of the nervous system due to vascular deficiencies including haemorrhagic and ischaemic events.

AMC1 ATCO.MED.B.065 Neurology

(a) Electroencephalography (EEG)

(1) EEG should be carried out when indicated by the applicant's history or on clinical grounds.

(2) Epileptiform paroxysmal EEG abnormalities and focal slow waves should be disqualifying. A fit assessment may be considered after further evaluation.

(b) Epilepsy

(1) Applicants who have experienced one or more convulsive episodes after the age of five should be assessed as unfit.

(2) A fit assessment may be considered if:

(i) the applicant is seizure free and off medication for a period of at least 10 years;

(ii) full neurological evaluation shows that a seizure was caused by a specific non-recurrent cause, such as trauma or toxin.

(3) Applicants who have experienced an episode of benign Rolandic seizure may be assessed as fit provided the seizure has been clearly diagnosed including a properly documented history and typical EEG result and the applicant has been free of symptoms and off treatment for at least 10 years.

(c) Neurological disease

Applicants with any stationary or progressive disease of the nervous system which has caused or is likely to cause a significant disability should be assessed as unfit. A fit assessment may be considered after full neurological evaluation in cases of minor functional losses associated with stationary disease.

(d) Disturbance of consciousness

Applicants with a history of one or more episodes of disturbed consciousness may be assessed as fit if the condition can be satisfactorily explained by a non-recurrent cause. A full neurological evaluation is required.

(e) Head injury

Applicants with a head injury which was severe enough to cause loss of consciousness or is associated with penetrating brain injury should be evaluated by a consultant neurologist. A fit assessment may be considered if there has been a full recovery and the risk of epilepsy is sufficiently low. Behavioural and cognitive aspects should be taken into account.

ATCO.MED.B.070 Visual system

(a) Examination:

(1) A comprehensive eye examination shall form part of the initial examination and be undertaken periodically depending on the refraction and the functional performance of the eye.

(2) A routine eye examination shall form part of all revalidation and renewal examinations.

(3) Applicants shall undergo tonometry at the first revalidation examination after the age of 40, on clinical indication and if indicated considering the family history.

(4) Applicants shall supply the AeMC or AME with an ophthalmic examination report in cases where:

(i) the functional performance shows significant changes;

(ii) the distant visual standards can only be reached with corrective lenses.

(5) Applicants with a high refractive error shall be referred to the licensing authority.

(b) Distant visual acuity, with or without optimal correction, shall be 6/9 (0,7) or better in each eye separately, and visual acuity with both eyes shall be 6/6 (1,0) or better.

(c) Initial applicants having monocular or functional monocular vision, including eye muscle balance problems, shall be assessed as unfit. At revalidation or renewal examinations the applicant may be assessed as fit provided that an ophthalmological examination is satisfactory. The applicant shall be referred to the licensing authority.

(d) Initial applicants with acquired substandard vision in one eye shall be assessed as unfit. At revalidation or renewal examinations the applicant shall be referred to the licensing authority and may be assessed as fit provided that an ophthalmological examination is satisfactory.

(e) Applicants shall be able to read an N5 chart or equivalent at 30 – 50 cm and an N14 chart or equivalent at 60 – 100 cm distance, if necessary with the aid of correction.

(f) Applicants shall have normal fields of vision and normal binocular function.

(g) Applicants who have undergone eye surgery shall be assessed as unfit until full recovery of the visual function. A fit assessment may be considered by the licensing authority subject to satisfactory ophthalmic evaluation.

(h) Applicants with a clinical diagnosis of keratoconus shall be referred to the licensing authority and may be assessed as fit subject to a satisfactory examination by an ophthalmologist.

(i) Applicants with diplopia shall be assessed as unfit.

(j) Spectacles and contact lenses

(1) If satisfactory visual function for the rated duties is achieved only with the use of correction, the spectacles or contact lenses must provide optimal visual function, be well tolerated, and suitable for air traffic control purposes.

(2) No more than one pair of spectacles, when worn during the exercise of licensed privileges, shall be used to meet the visual requirements at all distances.

(3) A spare set of similarly correcting spectacles shall be readily available when exercising the privileges of the licence(s).

(4) Contact lenses, when are worn during the exercise of licensed privileges, shall be mono-focal, non-tinted and not orthokeratological. Monovision contact lenses shall not be used.

(5) Applicants with a large refractive error shall use contact lenses or high index spectacle lenses.

AMC1 ATCO.MED.B.070 Visual system

(a) Eye examination

(1) At each aero-medical revalidation examination, the visual fitness should be assessed and the eyes should be examined with regard to possible pathology.

(2) All abnormal and doubtful cases should be referred to an ophthalmologist. Conditions which indicate ophthalmological examination include but are not limited to a substantial decrease in the uncorrected visual acuity, any decrease in best corrected visual acuity and/or the occurrence of eye disease, eye injury or eye surgery.

(3) Where ophthalmological examinations are required for any significant reason, this should be imposed as a limitation on the medical certificate.

(4) The effect of multiple eye conditions should be evaluated by an ophthalmologist with regard to possible cumulative effects. Functional testing in the working environment may be necessary to consider a fit assessment.

(5) Visual acuity should be tested using Snellen charts, or equivalent, under appropriate illumination. Where clinical evidence suggests that Snellen may not be appropriate, Landolt 'C' may be used.

(b) Comprehensive eye examination

A comprehensive eye examination by an eye specialist is required at the initial examination. All abnormal and doubtful cases should be referred to an ophthalmologist. The examination should include:

(1) history;

(2) visual acuities — near, intermediate and distant vision; uncorrected and with best optical correction if needed;

(3) objective refraction — hyperopic initial applicants with a hyperopia of more than +2 dioptres and under the age of 25 in cycloplegia;

(4) ocular motility and binocular vision;

(5) colour vision;

(6) visual fields;

(7) tonometry;

(8) examination of the external eye, anatomy, media (slit lamp) and fundoscopy;

(9) assessment of contrast and glare sensitivity.

(c) Routine eye examination

At each revalidation or renewal examination, the visual fitness should be assessed and the eyes should be examined with regard to possible pathology. All abnormal and doubtful cases should be referred to an ophthalmologist. This routine eye examination should include:

(1) history;

(2) visual acuities — near, intermediate and distant vision; uncorrected and with best optical correction if needed;

(3) morphology by ophthalmoscopy;

(4) further examination on clinical indication.

(d) Refractive error

(1) Applicants with a refractive error between +5.0/-6.0 dioptres may be assessed as fit provided optimal correction has been considered and no significant pathology is demonstrated. If the refractive error exceeds +3.0/-3.0 dioptres, a four-yearly follow-up by an eye specialist should be required.

(2) Applicants with:

(i) a refractive error exceeding -6 dioptres;

(ii) an astigmatic component exceeding 3 dioptres; or

(iii) anisometropia exceeding 3 dioptres;

may be considered for a fit assessment if:

(A) no significant pathology can be demonstrated;

(B) optimal correction has been considered;

(C) visual acuity is at least 6/6 (1.0) in each eye separately with normal visual fields while wearing the optimal spectacle correction;

(D) two-yearly follow-up is undertaken by an eye specialist.

(3) Applicants with hypermetropia exceeding +5.0 dioptres may be assessed as fit subject to a satisfactory ophthalmological evaluation provided there are adequate fusional reserves, normal intraocular pressures and anterior angles and no significant pathology has been demonstrated. Corrected visual acuity in each eye shall be 6/6 or better.

(4) Applicants with a large refractive error shall use contact lenses or high-index spectacle lenses.

(e) Convergence

Applicants with convergence outside the normal range may be assessed as fit provided it does not interfere with near vision (30–50 cm) or intermediate vision (100 cm) with or without correction.

(f) Substandard vision

(1) Applicants with reduced central vision in one eye may be assessed as fit for a revalidation or renewal of a medical certificate if the binocular visual field is normal and the underlying pathology is acceptable according to ophthalmological evaluation. Testing should include functional testing in the appropriate working environment.

(2) Applicants with acquired substandard vision in one eye (monocularity, functional monocular vision including eye muscle imbalance) may be assessed as fit for revalidation or renewal if the ophthalmological examination confirms that:

(i) the better eye achieves distant visual acuity of 1.0 (6/6), corrected or uncorrected;

(ii) the better eye achieves intermediate and near visual acuity of 0.7 (6/9), corrected or uncorrected;

(iii) there is no significant ocular pathology;

(iv) a functional test in the working environment is satisfactory; and

(v) in the case of acute loss of vision in one eye, a period of adaptation time has passed from the known point of visual loss, during which the applicant is assessed as unfit.

(3) An applicant with a monocular visual field defect may be assessed as fit if the binocular visual fields are normal.

(g) Keratoconus

Applicants with keratoconus may be considered for a fit assessment if the visual requirements are met with the use of corrective lenses and periodic review is undertaken by an ophthalmologist.

(h) Heterophoria

Applicants with heterophoria (imbalance of the ocular muscles) exceeding when measured with optimal correction, if prescribed:

(1) at six metres:

2.0 prism dioptres in hyperphoria,

10.0 prism dioptres in esophoria,

8.0 prism dioptres in exophoria

and

(2) at 33 centimetres:

1.0 prism dioptre in hyperphoria,

8.0 prism dioptres in esophoria,

12.0 prism dioptres in exophoria

may be assessed as fit provided that orthoptic evaluation demonstrates that the fusional reserves are sufficient to prevent asthenopia and diplopia. The Netherlands Optical Society (TNO) testing or equivalent should be carried out to demonstrate fusion.

(i) Eye surgery

(1) After refractive surgery or surgery of the cornea including cross linking, a fit assessment may be considered, provided:

(i) satisfactory stability of refraction has been achieved (less than 0.75 dioptres variation diurnally);

(ii) examination of the eye shows no post-operative complications;

(iii) glare sensitivity is normal;

(iv) mesopic contrast sensitivity is not impaired;

(v) evaluation is undertaken by an ophthalmologist.

(2) Cataract surgery

Following intraocular lens surgery, including cataract surgery, a fit assessment may be considered once recovery is complete and the visual requirements are met with or without correction. Intraocular lenses should be monofocal and should not impair colour vision.

(3) Retinal surgery/retinal laser therapy

(i) After successful retinal surgery, applicants may be assessed as fit once the recovery is complete. Annual ophthalmological follow-up may be necessary. Longer periods may be acceptable after two years on recommendation of the ophthalmologist.

(ii) After successful retinal laser therapy, applicants may be assessed as fit provided an ophthalmological evaluation shows stability.

(4) Glaucoma surgery

A fit assessment may be considered six months after successful glaucoma surgery, or earlier if recovery is complete. Six-monthly ophthalmological examinations to follow up secondary complications caused by the glaucoma may be necessary.

(5) Extraocular muscle surgery

A fit assessment may be considered not less than six months after surgery and after a satisfactory ophthalmological evaluation.

(j) Visual correction

Spectacles should permit the licence holder to meet the visual requirements at all distances.

GM1 ATCO.MED.B.070 Visual system

COMPARISON OF DIFFERENT READING CHARTS (APPROXIMATE FIGURES)

(a) Test distance: 40 cm

Decimal	Nieden	Jäger	Snellen	N	Parinaud
1,0	1	2	1,5	3	2
0,8	2	3	2	4	3
0,7	3	4	2,5		
0,6	4	5	3	5	4
0,5	5	5		6	5
0,4	7	9	4	8	6
0,35	8	10	4,5		8
0,32	9	12	5,5	10	10
0,3	9	12		12	
0,25	9	12		14	
0,2	10	14	7,5	16	14
0,16	11	14	12	20	

(b) Test distance: 80 cm

Decimal	Nieden	Jäger	Snellen	N	Parinaud
1,2	4	5	3	5	4
1,0	5	5		6	5
0,8	7	9	4	8.0	6
0,7	8	10	4,5		8
0,63	9	12	5,5	10	10
0,6	9	12		12	10
0,5	9	12		14	10
0,4	10	14	7,5	16	14
0,32	11	14	12	20	14

ATCO.MED.B.075 Colour vision

Applicants shall be normal trichromates.

AMC1 ATCO.MED.B.075 Colour vision

(a) Pseudoisochromatic plate testing alone is not sufficient.

(b) Colour vision should be assessed using means to demonstrate normal trichromacy.

GM1 ATCO.MED.B.075 Colour vision

The means to demonstrate normal trichromacy include:

(a) anomaloscopy (Nagel or equivalent). This test is considered passed if the colour match is trichromatic and the matching range is four scale units or less;

(b) Colour Assessment and Diagnosis (CAD) test.

ATCO.MED.B.080 Otorhinolaryngology

(a) Examination:

(1) A routine otorhinolaryngological examination shall form part of all initial, revalidation and renewal examinations.

(2) Hearing shall be tested at all examinations. The applicant shall understand correctly conversational speech when tested with each ear at a distance of 2 metres from and with his/her back turned towards the AME.

(3) Hearing shall be tested with pure tone audiometry at the initial examination and at subsequent revalidation or renewal examinations every 4 years until the age of 40 and every 2 years thereafter.

(4) Pure-tone audiometry:

(i) Applicants for a class 3 medical certificate shall not have a hearing loss of more than 35 dB at any of the frequencies 500, 1000 or 2000 Hz, or more than 50 dB at 3000 Hz, in either ear separately.

(ii) Applicants who do not meet the hearing criteria above shall be referred to the licensing authority and undergo a specialist assessment before a fit assessment may be considered. Initial applicants shall undergo a speech discrimination test. Applicants for a revalidation or renewal of a class 3 medical certificate shall undergo a functional hearing test in the operational environment.

(5) Hearing aids:

(i) Initial examination: the need of hearing aids to comply with the hearing requirements entails unfitness.

(ii) Revalidation and renewal examinations: a fit assessment may be considered if the use of hearing aid(s) or of an appropriate prosthetic aid improves the hearing to achieve a normal standard as assessed by fully functional testing in the operational environment.

(iii) If a prosthetic aid is needed to achieve the normal hearing standard, a spare set of the equipment and accessories, such as batteries, shall be available when exercising the privileges of the licence.

(b) Applicants with:

(1) an active chronic pathological process of the internal or middle ear;

(2) unhealed perforation or dysfunction of the tympanic membrane(s);

(3) disturbance of vestibular function;

(4) significant malformation or significant chronic infection of the oral cavity or upper respiratory tract;

(5) significant disorder of speech or voice reducing intelligibility;

shall be referred to the licensing authority and undergo further ORL examination and assessment to establish that the condition does not interfere with the safe exercise of the privileges of the licence.

AMC1 ATCO.MED.B.080 Otorhinolaryngology

(a) Examination

(1) An otorhinolaryngological examination includes:

(i) history;

(ii) clinical examination including otoscopy, rhinoscopy and examination of the mouth and throat;

(iii) clinical examination of the vestibular system.

(2) Ear, nose and throat (ENT) specialists involved in the aero-medical assessment of air traffic controllers should have an understanding of the functionality required by air traffic controllers whilst exercising the privileges of their licence(s).

(3) Where a full aero-medical assessment and functional check are needed, due regard should be paid to the operational environment in which the operational functions are undertaken.

(b) Hearing

(1) The follow-up of an applicant with hypoacusis should be decided by the licensing authority. If at the next annual test there is no indication of further deterioration, the normal frequency of testing may be resumed.

(2) An appropriate prosthetic aid may be a special headset with individual earpiece volume controls. Full functional and environmental assessments should be carried out with the chosen prosthetic equipment in use.

(c) Ear conditions

An applicant with a single dry perforation of non-infectious origin and which does not interfere with the normal function of the ear may be considered for a fit assessment.

(d) Vestibular disturbance

The presence of vestibular disturbance and spontaneous or positional nystagmus requires complete vestibular evaluation by a specialist. Significant abnormal caloric or rotational vestibular responses are disqualifying. At revalidation and renewal aero-medical examinations, abnormal vestibular responses should be assessed in their clinical context.

(e) Speech disorder

Applicants with a speech disorder should be assessed with due regard to the operational environment in which the operational functions are undertaken. Applicants with significant disorder of speech or voice should be assessed as unfit.

GM1 ATCO.MED.B.080 Otorhinolaryngology

HEARING

(a) Speech discrimination test: discriminating speech against other noise including other sources of verbal communication and ambient noise in the working environment, but not against engine noise.

(b) Functional hearing test: the objective of this test is to evaluate the controller's ability to hear the full range of communications that occur in an operational environment and not just through a headset or speaker.

(c) Prosthetic aid: the functional hearing test to be carried out with the prosthetic aid in use is to ensure that the individual is able to perform the functions of his/her licence and that the equipment is not adversely affected by interference from headsets or other factors.

(d) Pure-tone audiometry: testing at frequencies at or above 4 000 Hz will aid the early diagnosis of acoustic neuroma, noise-induced hearing loss (NIH) and other disorders of hearing. Particular attention should be paid in cases where there is a significant difference between thresholds of the left and right ear.

ATCO.MED.B.085 Dermatology

Applicants shall have no established dermatological condition likely to interfere with the safe exercise of the privileges of the licence held.

AMC1 ATCO.MED.B.085 Dermatology

(a) Referral to the licensing authority should be made if doubt exists about the fitness of an applicant with eczema (exogenous and endogenous), severe psoriasis, chronic infections, drug-induced or bullous eruptions or urticaria.

(b) Systemic effects of radiation or pharmacological treatment for a dermatological condition should be evaluated before a fit assessment may be considered.

(c) An applicant with a skin condition that causes pain, discomfort, irritation or itching may only be assessed as fit if the condition can be controlled and does not interfere with the safe exercise of the privileges of the licence.

(d) In cases where a dermatological condition is associated with a systemic illness, full consideration should be given to the underlying illness before a fit assessment may be considered.

ATCO.MED.B.090 Oncology

(a) After diagnosis of primary or secondary malignant disease, applicants shall be referred to the licensing authority and shall undergo satisfactory oncological evaluation before a fit assessment may be considered.

(b) Applicants with an established history or clinical diagnosis of an intracerebral malignant tumour shall be assessed as unfit.

AMC1 ATCO.MED.B.090 Oncology

(a) Applicants who have been diagnosed with a malignant disease may be assessed as fit provided:

(1) after primary treatment there is no evidence of residual malignant disease likely to interfere with the safe exercise of the privileges of the licence;

(2) time appropriate to the type of tumour has elapsed since the end of primary treatment;

(3) the risk of incapacitation from a recurrence or metastasis is sufficiently low;

(4) there is no evidence of short- or long-term sequelae from treatment. Special attention should be paid to applicants who have received anthracycline chemotherapy;

(5) satisfactory oncology follow-up reports are provided to the licensing authority.

(b) Applicants receiving ongoing chemotherapy or radiation treatment should be assessed as unfit.

(c) Applicants with a benign intracerebral tumour may be assessed as fit after satisfactory specialist and neurological evaluation and the condition does not compromise the safe exercise of the privileges of the licence.

(d) Applicants with pre-malignant conditions may be assessed as fit if treated or excised as necessary and there is a regular follow-up.

SUBPART C — AERO-MEDICAL EXAMINERS (AMES)

ATCO.MED.C.001 Privileges

(a) In accordance with this Part, the privileges of an AME are to revalidate and renew class 3 medical certificates, and to conduct the relevant aero-medical examinations and assessments.

(b) The scope of the privileges of the AME, and any condition thereof, shall be specified in the certificate.

(c) Holders of an AME certificate shall not undertake aero-medical examinations and assessments in a Member State other than the Member State that issued their AME certificate, unless they have:

(1) been granted access by the host Member State to exercise their professional activities as a specialised doctor;

(2) informed the competent authority of the host Member State of their intention to conduct aero-medical examinations and assessments and to issue medical certificates within the scope of their privileges as AME; and

(3) received a briefing from the competent authority of the host Member State.

ATCO.MED.C.005 Application

(a) The application for an AME certificate shall be submitted in accordance with the procedure established by the competent authority.

(b) Applicants for an AME certificate shall provide the competent authority with:

(1) personal details and professional address;

(2) documentation demonstrating that they comply with the requirements established in ATCO.MED.C.010, including the certificate of completion of the training courses in aviation medicine appropriate to the privileges they apply for;

(3) a written declaration that the AME will issue medical certificates on the basis of the requirements of this Part.

(c) When the AME undertakes aero-medical examinations in more than one location, they shall provide the competent authority with relevant information regarding all practice locations and practice facilities.

ATCO.MED.C.010 Requirements for the issue of an AME certificate

Applicants for an AME certificate with the privileges for the revalidation and renewal of class 3 medical certificates shall:

(a) be fully qualified and licensed for the practice of medicine and hold a Certificate of Completion, or have evidence of, specialist medical training;

(b) have successfully completed basic and advanced training courses in aviation medicine, including specific modules for the aero-medical assessment of air traffic controllers and the specific environment in air traffic control;

(c) demonstrate to the competent authority that they:

(1) have adequate facilities, procedures, documentation and functioning equipment suitable for aero-medical examinations; and

(2) have in place the necessary procedures and conditions to ensure medical confidentiality.

ATCO.MED.C.015 Training courses in aviation medicine

(a) Training courses in aviation medicine shall be approved by the competent authority of the Member State where the training provider has its principal place of business. The training provider shall demonstrate that the course syllabus contains the learning objectives to acquire the necessary competencies and that the persons in charge of providing the training have adequate knowledge and experience.

(b) Except in the case of refresher training, the courses shall be concluded by a written examination on the subjects included in the course content.

(c) The training provider shall issue a certificate of completion to the applicants when they have obtained a pass in the examination.

AMC1 ATCO.MED.C.015 Training courses in aviation medicine

BASIC TRAINING COURSE

(a) Basic training course for AMEs

The basic training course for AMEs should consist of 60 hours of theoretical and practical training, including specific examination techniques.

(b) The learning objectives to acquire the necessary competences should include theoretical knowledge, risk management and decision-making principles in the following subjects. Demonstrations and practical skills should also be included, where appropriate.

(1) Introduction to aviation medicine;

(2) Basic aeronautical knowledge;

(3) Aviation physiology;

(4) Cardiovascular system;

(5) Respiratory system;

(6) Digestive system;

(7) Metabolic and endocrine system;

(8) Haematology;

(9) Genitourinary system;

(10) Obstetrics and gynaecology;

(11) Musculoskeletal system;

(12) Psychiatry;

(13) Psychology;

(14) Neurology;

(15) Visual system and colour vision;

(16) Otorhinolaryngology;

(17) Oncology;

(18) Incidents and accidents, escape and survival;

(19) Legislation, rules and regulations;

(20) Medication and air traffic control.

AMC2 ATCO.MED.C.015 Training courses in aviation medicine

ADVANCED TRAINING COURSE

(a) The advanced training course for AMEs should consist of another 60 hours of theoretical and practical training, including specific examination techniques.

(b) The syllabus for the advanced training course should concentrate on the specific air traffic control environment, and demonstrations and practical skills should be included, where appropriate. The course should cover at least the following subjects:

(1) Air traffic control working environment;

(2) Ophthalmology, including demonstration and practical training;

(3) Otorhinolaryngology, including demonstration and practical training;

(4) Clinical medicine;

(5) Cardiovascular system;

(6) Neurology;

(7) Psychiatry;

(8) Oncology;

(9) Metabolic and endocrine systems;

(10) Human factors in aviation with a specific focus on the air traffic control environment;

(11) Problematic use of substances.

(c) Practical training at an AeMC should be under the guidance and supervision of the Head of the AeMC.

(d) After the successful completion of the practical training, a report of demonstrated competence should be issued.

ATCO.MED.C.020 Changes to the AME certificate

(a) AMEs shall notify the competent authority of the following circumstances which could affect their certificate:

(1) the AME is subject to disciplinary proceedings or investigation by a medical regulatory body;

(2) there are any changes to the conditions on which the certificate was granted, including the content of the statements provided with the application;

(3) the requirements for the issue of an AME certificate are no longer met;

(4) there is a change to the aero-medical examiner's practice location(s) or correspondence address.

(b) Failure to inform the competent authority shall result in the suspension or revocation of the privileges of the AME certificate, on the basis of the decision of the competent authority that suspends or revokes the certificate.

ATCO.MED.C.025 Validity of AME certificates

An AME certificate shall be issued for a period not exceeding 3 years. It shall be revalidated provided the holder:

(a) continues to fulfil the general conditions required for medical practice and maintains registration as a medical practitioner;

(b) has undertaken refresher training in aviation medicine and in the working environments of air traffic controllers within the last 3 years;

(c) has performed at least 10 aero-medical examinations every year. This number of examinations may only be reduced by the competent authority in duly justified circumstances;

(d) remains in compliance with the terms of their AME certificate; and

(e) exercises the AME privileges in accordance with this Part.

AMC1 ATCO.MED.C.025(b) Validity of AME certificates

REFRESHER TRAINING IN AVIATION MEDICINE

(a) During the period of authorisation certification, an AME should attend 20 hours of refresher training, including training with regard to the environment of air traffic control.

(b) A proportionate number of refresher training hours should be provided by, or conducted under the direct supervision of, the competent authority or the medical assessor.

(c) Attendance at scientific meetings and congresses and air traffic control observation may be credited by the competent authority for a specified number of hours against the training obligations of the AME, provided the medical assessor has assessed it in advance as being relevant for crediting purposes.

GM1 ATCO.MED.C.025(b) Validity of AME certificates

REFRESHER TRAINING IN AVIATION MEDICINE

Scientific meetings or congresses that may be credited by the competent authority:

(a) European Conference of Aerospace Medicine;

(b) International Academy of Aviation and Space Medicine annual congresses;

(c) Aerospace Medical Association annual scientific meetings; and

(d) Other scientific meetings.

INITIAL TRAINING CONTENT

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AMC1 ATCO.D.010(a)(2)(v) *Composition of initial training — Approach control surveillance rating (APS) training Subject objectives and training objectives*

AMC1 ATCO.D.010(a)(2)(vi) *Composition of initial training — Area control surveillance rating (ACS) training Subject objectives and training objectives*

AMC1 ATCO.D.010(a) Composition of initial training

GENERAL

1. Structure of the basic and rating training syllabi

(a) The basic and rating training syllabi have been structured as follows:

(1) The syllabus is divided into subjects, which are divided into topics that are in turn divided into subtopics. This structure serves the definition and classification of the objectives. There can be one or several objectives linked to each subtopic.

(2) Objectives are assigned to a specific subject which deals with the knowledge and skills needed to accomplish the related subject objective.

(3) Subjects, topics and subtopics are contained in Appendices 2 to 8 to Annex I to Commission Regulation (EU) 2015/340, and are repeated in:

- AMC1 ATCO.D.010(a)(1) Composition of initial training — BASIC TRAINING — SUBJECT OBJECTIVES AND TRAINING OBJECTIVES;
- AMC1 ATCO.D.010(a)(2)(i) Composition of initial training — AERODROME CONTROL VISUAL RATING (ADV) TRAINING — SUBJECT OBJECTIVES AND TRAINING OBJECTIVES;
- AMC1 ATCO.D.010(a)(2)(ii) Composition of initial training — AERODROME CONTROL INSTRUMENT RATING FOR TOWER ADI (TWR) TRAINING — SUBJECT OBJECTIVES AND TRAINING OBJECTIVES;
- AMC1 ATCO.D.010(a)(2)(iii) Composition of initial training — APPROACH CONTROL PROCEDURAL RATING (APP) TRAINING — SUBJECT OBJECTIVES AND TRAINING OBJECTIVES;
- AMC1 ATCO.D.010(a)(2)(iv) Composition of initial training — AREA CONTROL PROCEDURAL RATING (ACP) TRAINING — SUBJECT OBJECTIVES AND TRAINING OBJECTIVES;
- AMC1 ATCO.D.010(a)(2)(v) Composition of initial training — APPROACH CONTROL SURVEILLANCE RATING (APS) TRAINING — SUBJECT OBJECTIVES AND TRAINING OBJECTIVES
- AMC1 ATCO.D.010(a)(2)(vi) Composition of initial training — AREA CONTROL SURVEILLANCE RATING (ACS) TRAINING — SUBJECT OBJECTIVES AND TRAINING OBJECTIVES

in order to provide the reader with a comprehensive and unique reference document for the basic and each of the rating trainings. Subject objectives and training objectives are included in and form an integral part of each of the aforementioned AMCs.

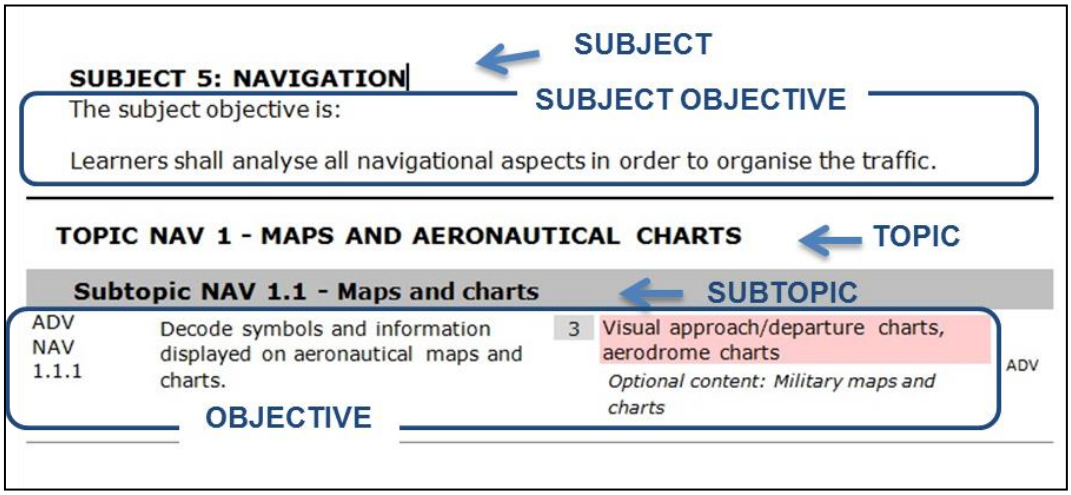

Figure 1: Layout of syllabus

(a) The following principles may be applied to the development of a training course that is based on any of the syllabi:

(1) The structure of the syllabi and the order of the objectives contained therein is neither intended to convey a pedagogical sequence nor to indicate a relative level of importance.

(2) No objective from the basic training syllabus is repeated as 'a refresher' in the rating training syllabi.

(3) The number of objectives contained within a subtopic does not necessarily signify how long it should take to teach that subtopic. For example, a subtopic containing five relatively straightforward objectives, may take a shorter time to be taught than another subtopic containing two complex objectives.

2. Structure of objectives

(a) An objective consists of three elements:

(1) The corpus, which is a description of the required performance. It always contains an action verb to ensure that the outcome is observable. The action verb is always associated with a defined taxonomy.

(2) The level, which indicates numerically the taxonomy of the action verb.

(3) The content, which may be implicit or explicit. The explicit content is written in the content field, while the implicit content is not but, instead, is implied in the corpus of the objective and other elements (syllabus, subject, etc.). Content that is a required part of the objective is written in the red shaded field. Optional content, written in italics, may be used if considered appropriate.

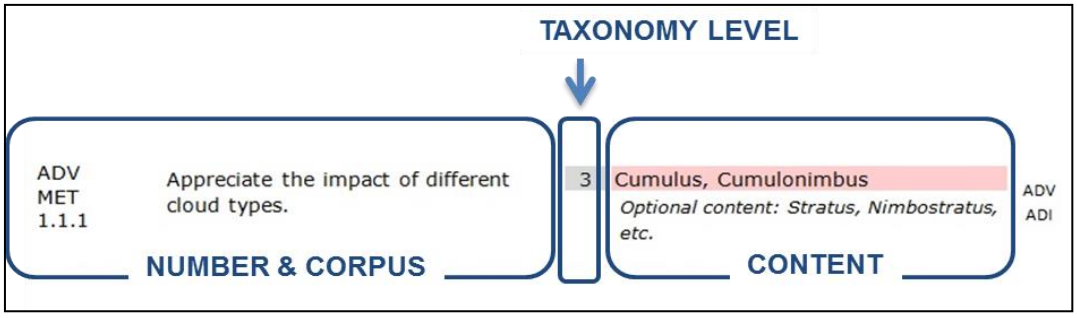

Figure 2: Layout of an objective

3. Repeated and common objectives

(a) Repeated and common objectives are only applicable to rating training.

(b) To the right of each objective, there is an indication of which other ratings contain this particular objective. If the rating is indicated in red italics, it notifies the reader that the objective(s) is (are) verbatim in each rating; however, the objective numbers are different. This indication is the first step to help the training providers in identifying the potential commonalities between the various syllabi. As a second step, the training provider must determine, at the level of local implementation, whether the objective is to be regarded as repeated or common.

Subtopic ATM 1.2 - Flight information service (FIS)				
ADV ATM 1.2.1	Describe the information that shall be passed to aircraft by an aerodrome controller.	2	ICAO Doc 4444	ADV ADI
ADV ATM 1.2.2	Provide FIS.	4	ICAO Doc 4444 *Optional content: national documents*	*ALL*
ADV ATM 1.2.3	Issue appropriate information.	3	ICAO Doc 4444, essential local traffic, traffic information	ADV ADI
ADV ATM 1.2.4	Appreciate the use of ATIS for the provision of flight information service by aerodrome controller.	3		ADV ADI

Figure 3: Indication of the ratings that particular objective applies to

3.1 Repeated objectives

All the objectives appearing in a syllabus are implicitly appropriate to this syllabus. As a consequence, objectives may be repeated 'verbatim' in different rating syllabi and nevertheless specify a different performance. The reader always needs to mentally add the sentence 'in this syllabus context' at the end of each objective.

For example, the objective 'use approved phraseology' is repeated (same level, same corpus, same content) in all the syllabi but is different because the context is different in each syllabus (a learner able to use approved phraseology for en-route traffic will need additional training before mastering the phraseology in the provision of aerodrome control).

3.2 Common objectives

(a) Common objectives are verbatim the same objectives that appear in more than one rating syllabi in the same context so that they do not need to be taught again in case of combined or successively organised courses.

For example, the objective 'describe the human information processing model' is common for all the syllabi because the context is non-specific and is, therefore, not determined by the type of rating.

(b) As a general principle, the rating subject Human Factors is identical in each of the rating training syllabi and can be considered as containing common objectives because the context is always the same. This means that the rating training objectives relating to Human Factors need to be taught only once. If a learner is acquiring an additional rating, he/she would not be required to repeat the Human Factors objectives.

4. Action verbs that support the taxonomy for training objectives

(a) The five taxonomy levels should be understood to have the following levels of complexity:

(1) Action verbs for Level 1

Level 1 — A basic knowledge of the subject. It is the ability to remember essential points, to memorise data and retrieve it.

L1 Verb	Definition	Example
Define	State what it is and what its limits are; state the definition.	Define ATC service.
Draw	Produce a picture, pattern or diagram.	Draw the block diagram. Draw a holding pattern.
List	Say one after the other.	List the main structure components of an aircraft.
Name	Give name of objects or procedures.	Name the components of an ILS. Name the key national and international aviation organisations.
Quote	Repeat what is written or said.	Quote ICAO definition of ATC service.
Recognise	To know what it is because you've seen it before.	Recognise the information contained in the different parts of the AIP.
State	Say or write in a formal or definite way.	State the meteorological hazards to aviation.

(2) Action verbs for Level 2

Level 2 — The ability to understand and to discuss the subject matter intelligently in order to represent and act upon certain objects and events.

L2 Verb	Definition	Example
Characterise	To describe the quality of features in something.	Characterise the main items of ATC equipment.
Consider	To think carefully about it.	Consider the benefits of Critical Incident Stress Management (CISM).
Demonstrate	Describe and explain; logically or mathematically prove the truth of a statement.	Demonstrate the importance of good communications in ATC.
Describe	Say what it is like or what happened.	Describe the methods by which ICAO notifies and implements legislation.
Differentiate	Show the differences between things.	Differentiate between different types of visibility.
Explain	Give details about something or describe so that it can be understood.	Explain the purpose and function of ICAO.
Take account of	Take into consideration before	Take account of the wind

	deciding.	influence when calculating a ground speed. Take account of the limitations of equipment and systems.

(3) Action verbs for Level 3

Level 3 — A thorough knowledge of the subject and the ability to apply it with accuracy. The ability to make use of the repertoire of knowledge to develop plans and activate them.

L3 Verb	Definition	Example
Act	Carry out, execute.	Act to reduce stress.
Apply	Use something in a situation or activity.	Apply separation.
Appreciate	To understand a situation and know what is involved in a problem-solving situation, to state a plan without applying it.	Appreciate the necessity for coordination (The learner says that the coordination will be done and with whom, he/she does not perform the actual coordination).
Assist	Help somebody to do a job by doing part of it.	Assist the pilot.
Calculate	To discover from information you already have by arithmetic; to think about a possible cause of action in order to form an opinion or decide what to do.	Calculate appropriate levels. Calculate conversions between the three north designations.
Check	Make sure the information is correct (satisfactory).	Check the accuracy of flight data information. Check availability of information material.
Choose	Select out of number, decide to do one thing rather than another.	Choose appropriate levels. Choose which aircraft should be vectored.
Collect	Assemble, accumulate, bring or come together.	Collect examples of different types of error, their causes and consequences in ATC.
Conduct	Organise and carry out.	Conduct coordination.
Confirm	Establish more firmly, corroborate.	Confirm sequence order.

L3 Verb	Definition	Example
Decode	Turn into ordinary writing, decipher.	Decode the content of weather reports and forecast.
Encode	Put into code or cipher.	Encode and decode flight plans (including supplementary information).
Estimate	Form an approximate judgement of a number, form an opinion.	Estimate distance and direction between two points.
Execute	Perform action.	Execute corrective actions.
Extract	Copy out, make extracts from, find, deduce.	Extract pertinent data from relevant sources to produce a flight progress display.
Identify	Associate oneself inseparably with, establish the identity.	Identify the role of ATC as a service provider and the requirements of the ATS users. Identify an aircraft.
Inform	Tell, give facts or information.	Inform supervisor of situation.
Initiate	Begin, set going, originate.	Initiate appropriate coordination.
Input	Enter in the system.	Input data.
Issue	Send forth, publish.	Issue appropriate ATC clearances. Issue appropriate traffic information.
Maintain	Cause or enable to continue.	Maintain flight data display.
Measure	Ascertain extent or quality of (thing) by comparison with fixed unit or with object of known size.	Measure distance on a map.
Monitor	Keep under observation.	Monitor traffic. Monitor the effect of human information processing factors on decision-making.
Notify	Make known, announce, report.	Notify runway in use.
Obtain	Acquire easily without research.	Obtain meteorological information. Obtain information from the relieving controller.

L3 Verb	Definition	Example
Operate	Conduct work on equipment.	Operate the equipment of the controller working position.
Pass	Move, cause to go, transmit.	Pass essential traffic information without delay.
Perform	Carry into effect, go through, execute.	Perform communication effectively.
Process	To put through the steps of a prescribed procedure.	Process pertinent data on data displays.
Record	Register, set down for remembrance or reference.	Record information by writing effectively.
Relay	Receive and pass on, broadcast.	Relay meteorological information from pilot reports.
Respond	Provide an answer, perform answering or corresponding action.	Respond to loss/doubt concerning identification. Respond to distress and urgency messages and signals.
Scan	Continuously observe rapidly, sequentially and selectively in order to extract relevant data.	Scan data display.
Transfer	Hand over.	Transfer information to the relieving controller.
Update	Refresh, bring up to date.	Update the data display to accurately reflect the traffic situation.
Use	Employ for a purpose, handle as instrument, put into operation.	Use approved phraseology. Use the available means for coordination.
Verify	Establish truth of.	Verify the mode C information.

(4) Action verbs for Level 4

Level 4 — Ability to establish a line of action within a unit of known applications following the correct chronology and the adequate method to resolve a problematic situation. This involves the integration of known applications in a familiar situation.

L4 Verb	Definition	Example
Acquire	Gain by oneself and for oneself, obtain after research.	Acquire relevant aeronautical information.
Adjust	Change to a new position, value or setting.	Adjust the surveillance system display.
Allocate	Assign, devote.	Allocate levels (height, altitude, flight level)

L4 Verb	Definition	Example
		according to altimetry data.
Analyse	Examine minutely the constitution of.	Analyse examples of pilot and controller communication for effectiveness. Analyse the information provided by the radar equipment.
Assign	Designate or set an element.	Assign codes.
Coordinate	Negotiate with others in order to work together effectively.	Coordinate runway in use. Coordinate in the provision of FIS.
Comply	Act in accordance with.	Comply with rules.
Delegate	Commit authority to somebody.	Delegate separation to pilots in the case of aircraft executing successive visual approaches.
Detect	Discover existence of.	Detect potential conflict.
Ensure	Make safe, make certain.	Ensure the agreed course of action is carried out.
Expedite	Assist the progress of, do speedily.	Expedite traffic.
Integrate	Combine into a whole, complete by addition of parts.	Integrate appropriate ATC clearances in control service.
Manage	Handle, conduct, maintain control over something, be in charge of.	Manage traffic on the manoeuvring area. Manage traffic in accordance with procedural changes.
Organise	Give orderly structure to, frame and put into working order.	Organise pertinent data on data displays. Organise priority of actions.
Predict	Forecast.	Predict positions of aircraft in the aerodrome traffic and taxi circuits.
Provide	Supply, furnish.	Provide radar separation. Provide FIS.
Relate	Establish link with.	Relate a pressure setting to an altitude.

(5) Action verbs for Level 5

Level 5 — Ability to analyse new situation in order to elaborate and apply one or other relevant strategy to solve a complex problem. The defining feature is that the situation is qualitatively different from those previously met, requiring judgement and evaluation of options.

L5 verb	Definition	Example
Assess	Estimate value or difficulty, evaluate, appraise.	Assess workload.
Balance	Weigh (a question, two arguments, etc., against each other).	Balance the workload with the traffic demand.
Discuss	Investigate by reasoning or argument.	Discuss the impact of regulation.
Evaluate	Ascertain amount of, find numerical expression for.	Evaluate the necessary information to be provided to pilots in need of navigational assistance.
Interpret	To decide on something's meaning or significance when there is a choice.	Interpret operational information.
Optimise	To make optimal; get the most out of; use best; modify to achieve maximum efficiency.	Optimise the use of support tools.
Resolve	Solve, clear up, settle.	Resolve conflict.
Select	Pick out as best or most suitable.	Select the runway in use.
Theorise	Extract general principles from a particular experience.	Theorise the resolution of conflict between a slow and a fast aircraft.
Validate	Make valid, ratify, prove valid, show or confirm the validity of something.	Validate one radar vectoring option to expedite the traffic.

(b) Application of taxonomy levels to practically-based objectives

(1) Objectives at taxonomy level 3 or higher, which are of a practical nature, related to all subjects except ATM, may be achieved by any suitable type of practical training methods, e.g. hands on, plotting on charts, etc.

(2) Objectives at taxonomy level 3 or higher, for the ATM subject (basic and rating), are practical by nature and require the integration of several knowledge areas and skills at the same time, e.g. vectoring of an aircraft requires knowledge and skills in the areas of radio telephony, aircraft performance, navigation and radar theory. Therefore, ATM level 3 objectives should be achieved through the use of a part task trainer or a simulator.

(3) ATM level 4 objectives should be achieved for the most part through the use of a simulator. A part task trainer, which presents operational situations at an enforced pace, may be used to achieve some ATM level 4 objectives.

(4) ATM level 5 objectives should be achieved through the use of a simulator.

AMC2 ATCO.D.010(a) Composition of initial training

LIST OF ACRONYMS/INITIALISMS

For the purposes of:

– AMC1 ATCO.D.010(a)(1) Composition of initial training — BASIC TRAINING — SUBJECT OBJECTIVES AND TRAINING OBJECTIVES

– AMC1 ATCO.D.010(a)(2)(i) Composition of initial training — AERODROME CONTROL VISUAL RATING (ADV) TRAINING — SUBJECT OBJECTIVES AND TRAINING OBJECTIVES

– AMC1 ATCO.D.010(a)(2)(ii) Composition of initial training — AERODROME CONTROL INSTRUMENT RATING FOR TOWER ADI (TWR) TRAINING — SUBJECT OBJECTIVES AND TRAINING OBJECTIVES

– AMC1 ATCO.D.010(a)(2)(iii) Composition of initial training — APPROACH CONTROL PROCEDURAL RATING (APP) TRAINING — SUBJECT OBJECTIVES AND TRAINING OBJECTIVES

– AMC1 ATCO.D.010(a)(2)(iv) Composition of initial training — AREA CONTROL PROCEDURAL RATING (ACP) TRAINING — SUBJECT OBJECTIVES AND TRAINING OBJECTIVES

– AMC1 ATCO.D.010(a)(2)(v) Composition of initial training — APPROACH CONTROL SURVEILLANCE RATING (APS) TRAINING — SUBJECT OBJECTIVES AND TRAINING OBJECTIVES

– AMC1 ATCO.D.010(a)(2)(vi) Composition of initial training — AREA CONTROL SURVEILLANCE RATING (ACS) TRAINING — SUBJECT OBJECTIVES AND TRAINING OBJECTIVES

the following acronyms/initialisms will apply:

Acronym/Initialism	Meaning
ABAS	Aircraft-based Augmentation System (EGNOS)
ACAS	Airborne Collision Avoidance System
ACC	Area Control Centre
ACP	Area Control Procedural Rating
ACFT	Aircraft (subject)
ACN	Aircraft Classification Number
ACS	Area Control Surveillance Rating
ADF	Automatic Direction Finding System
ADI	Aerodrome Control Instrument
ADS	Automatic Dependent Surveillance
ADV	Aerodrome Control Visual Rating
ADVS	Advisory Service
AEA	Association of European Airlines
AFIL	Air Filed Flight Plan
AFTN	Aeronautical fixed telecommunication network
AGA	Aerodromes
AIC	Aeronautical Information Circular
AIP	Aeronautical Information Publication
AIRAC	Aeronautical Information Regulation and Control
AIRAC SUP	AIRAC Supplement

AIREP	Air-Report
AIRMET	Information concerning en-route weather phenomena which may affect the safety of low-level aircraft operations
AIS	Aeronautical Information Service
ALRS	Alerting Service
AMC	Acceptable Means of Compliance
APM	Approach Path Monitor
APP	Approach Control/Centre/Procedural Rating
APS	Approach Control Surveillance Rating
APV	Approach Procedure with Vertical guidance
APW	Area Proximity Warning
ASDA	Accelerate Stop Distance Available
ASM	Airspace Management
ASMGCS	Advanced Surface Movement Guidance and Control Systems
ATC	Air Traffic Control
ATCEUC	Air Traffic Controllers European Unions Coordination
ATCO	Air Traffic Controller
ATCS	Air Traffic Control Service
ATFCM	Air Traffic Flow and Capacity Management
ATFM	Air Traffic Flow Management
ATIS	Automatic Terminal Information Service
ATM	Air Traffic Management
ATS	Air Traffic Services
ATZ	Aerodrome Traffic Zone
AVASI	Advanced Visual Approach Slope Indicator
B-RNAV	Basic Area Navigation
BIRDTAM	Bird hazard NOTAM (NOTAM reporting bird hazard)
CANSO	Civil Air Navigation Services Organisation
CAT	Clear Air Turbulence
CBA	Cross Border Area
CBT	Computer-Based Training
CCIS	Closed Circuit Information System
CDR	Conditional Route
CISM	Critical Incident Stress Management
CPDLC	Controller Pilot Data Link Communications
CPL	Current Flight Plan
D-GPS	Differential Global Positioning System
DFTI	Distance from Touchdown Indicator

DME	Distance Measuring Equipment
Doc	Document
EAM	ESARR Advisory Material
EASA	European Aviation Safety Agency
EAT	Expected Approach Time
EATCHIP	European Air Traffic Control Harmonisation and Integration Programme
EATMP	European Air Traffic Management Programme
EC	European Commission
ECAC	European Civil Aviation Conference
EET	Estimated Elapsed Time
EFIS	Electronic Flight Instrument System
EGNOS	European Geostationary Overlay Service
EQPS	Equipment and Systems (subject)
ESARR	Eurocontrol Safety Regulatory Requirements
ETF	European Transport Workers' Federation
EUROCONTROL	European Organisation for the Safety of Air Navigation
FAB	Functional Airspace Block
FDPS	Flight Data Processing System
FIR	Flight Information Region
FIS	Flight Information Service
FMS	Flight Management System
FPB	Flight Progress Board
FPL	Flight Plan
FUA	Flexible Use of Airspace
GAIN Report	Global Aviation Information Network Report
GBAS	Ground-Based Augmentation System
GLONASS	Global Orbiting Navigation Satellite System
GNSS	Global Navigation Satellite System
GP	Glide Path
GPS	Global Positioning System
GPWS	Ground Proximity Warning System
GUI	Guidelines
HBK	Handbook
HF	High Frequency
HUM	Human Factors (subject)
IACA	International Air Carrier Association
IAOPA	International Council of Aircraft Owner and Pilot Associations

IATA	International Air Transport Association
ICAO	International Civil Aviation Organisations
IFALPA	International Federation of Airline Pilots Association
IFATCA	International Federation of Air Traffic Controllers Associations
IFPS	Integrated Initial Flight Plan Processing System
IFR	Instrument Flight Rules
ILS	Instrument Landing System
IMC	Instrument Meteorological Conditions
INS	Inertial Navigation System
INTR	Introduction to the course (subject)
IRS	Inertial Reference System
IRVR	Instrument Runway Visual Range
ISA	International Standard Atmosphere
ITU	International Telecommunications Union
LAW	Aviation Law (subject)
LDA	Landing Distance Available
LLZ	Localizer
LNAV	Lateral Navigation
LOA	Letter of Agreement
LPV	Lateral Precision with Vertical guidance approach
MET	Meteorology
METAR	Meteorological Aviation Routine Weather Report
MLS	Microwave Landing System
Mode A	SSR identification code
Mode C	SSR Mode C (Pronounced: Mode Charlie)
Mode S	Mode Select
MONA	Monitoring Aids
MSAW	Minimum Safe Altitude Warning
MTCD	Medium Term Conflict Detection
MWO	Meteorological Watch Office
NAV	Navigation (subject)
NAVAID	Navigation(al) Aid
NDB	Non-Directional Beacon
No.	Number
NOTAM	Notice to Airmen
OJT	On the Job Training
OLDI	On-Line Data Interchange

P-RNAV	Precision Area Navigation
PANS	Procedures for Air Navigation Services
PAPI	Precision Approach Path Indicator
PAR	Precision Approach Radar
PBN	Performance Based Navigation
PCN	Pavement Classification Number
PEN	Professional Environment (subject)
PSR	Primary Surveillance Radar
PTP	Part Time Practice
QDM	Magnetic Heading
QDR	Magnetic Bearing
QFE	Atmospheric pressure at aerodrome elevation
QNH	Atmospheric pressure at mean sea level
QTF	The position of the transmitting station according to the bearings taken by the D/F station
RAIM	Receiver Autonomous Integrity Monitoring
RCC	Rescue Coordination Centre
RDPS	Radar Data Processing System
RNAV	Area Navigation
RNP	Required Navigation Performance
RNP-RNAV	Required Navigation Performance-Area Navigation
ROC	Rate of Climb
RPL	Stored Flight Plan
RTF	Radio Telephony
RVR	Runway Visual Range
RVSM	Reduced Vertical Separation Minimum
SADIS	Satellite Distribution of World Area Forecast System
SAR	Search and Rescue
SARPs	Standards and Recommended Practices (ICAO)
SBAS	Satellite Based Augmentation System
SELCAL	Selective Calling
SERA	Standardised European Rules of the Air
SHELL (model)	Software, Hardware, Environment, Live ware, Live ware Model
SID	Standard Instrument Departure (Route)
SIGMET	Significant Meteorological Information
SMR	Surface Movement Radar
SNOWTAM	NOTAM on SNOW conditions
SPECI	Aviation Selected Special Weather Report

SRC	Safety Regulation Commission
SRU	Safety Regulation Unit
SSR	Secondary Surveillance Radar
STCA	Short Term Conflict Alert
SVFR	Special Visual Flight Rules Flight
TACAN	UHF Tactical Air Navigation Aid
TAF	Terminal Area (Aerodrome) Forecast
TCAC	Tropical Cyclone Advisory Centre
TODA	Take Off Distance Available
TORA	Take Off Run Available
TRM	Team Resource Management
TSA	Temporary Segregated Area
TWR	Tower Control Unit (Aerodrome Control Tower)
UDES	Unusual Degraded Emergency Situations
UDF	Ultra High Frequency Direction Finder
UHF	Ultra High Frequency
UTC	Coordinated Universal Time
VAAC	Volcanic Ash Advisory Centre
VASI	Visual Approach Slope Indicator
VDF	Very High Frequency Direction Finder
VFR	Visual Flight Rules
VHF	Very High Frequency
VMC	Visual Meteorological Conditions
VNAV	Vertical Navigation
VOLMET	Routine Weather Reports Broadcast on VHF
VOR	VHF Omni-directional Radio Range
WAFC	World Area Forecast Centre
WAFS	World Area Forecast System
WGS-84	World Geodetic System 84

AMC1 ATCO.D.010(a)(1) Composition of initial training - content

BASIC TRAINING — SUBJECT OBJECTIVES AND TRAINING OBJECTIVES

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SUBJECT 6: AIRCRAFT

SUBJECT 7: HUMAN FACTORS

SUBJECT 8: EQUIPMENT AND SYSTEMS

SUBJECT 9: PROFESSIONAL ENVIRONMENT

AMC1 ATCO.D.010(a)(1) Composition of initial training

BASIC TRAINING — SUBJECT OBJECTIVES AND TRAINING OBJECTIVES

(a) The general principles that apply to this AMC are contained in AMC1 ATCO.D.010(a).

(b) Basic training should contain the following subject objectives and training objectives that are associated with the subjects, topics and subtopics contained in Appendix 2 to Annex I to Commission Regulation (EU) 2015/340 — Basic training.

(c) Subjects, topics and subtopics from Appendix 2 to Annex I to Commission Regulation (EU) 2015/340 are repeated in this AMC for the convenience of the reader and do not form part of it.

SUBJECT 1: INTRODUCTION TO THE COURSE

The subject objective is:

Learners shall know and understand the training programme that they will follow and how to obtain the appropriate information, and recognise the potential for development of their careers in ATC.

TOPIC INTRB 1 — COURSE MANAGEMENT

Subtopic INTRB 1.1 — Course introduction

BASIC INTRB 1.1.1	Explain the aims and main objectives of the course.	2	

Subtopic INTRB 1.2 — Course administration

BASIC INTRB 1.2.1	State course administration.	1	

Subtopic INTRB 1.3 — Study material and training documentation

BASIC INTRB 1.3.1	Use appropriate documentation and their sources for the course.	3	*Optional content: training documentation, library, CBT library, web, learning management server*
BASIC INTRB 1.3.2	Integrate appropriate information into course studies.	4	Training documentation *Optional content: supplementary information, library*

TOPIC INTRB 2 — INTRODUCTION TO THE ATC TRAINING COURSE

Subtopic INTRB 2.1 — Course content and organisation

BASIC INTRB 2.1.1	State the different training methods applied to the course.	1	Theoretical training, practical training, self-study, types of training events
BASIC INTRB 2.1.2	State the subjects of the course and their purpose.	1	
BASIC INTRB 2.1.3	Describe the organisation of theoretical training.	2	*Optional content: course programme*
BASIC INTRB 2.1.4	Describe the organisation of practical training.	2	*Optional content: PTP, simulation, briefing, debriefing, course programme*

Subtopic INTRB 2.2 — Training ethos			
BASIC INTRB 2.2.1	Recognise the feedback mechanisms available.	1	*Optional content: instructor discussions, training progress, assessment, examinations, results, briefing, debriefing*
BASIC INTRB 2.2.2	Describe the positive effect of working and learning together with course participants.	2	Team work in theoretical and practical training
Subtopic INTRB 2.3 — Assessment process			
BASIC INTRB 2.3.1	Describe the assessment process.	2	

TOPIC INTRB 3 — INTRODUCTION TO THE ATCO's FUTURE

Subtopic INTRB 3.1 — Job prospects			
BASIC INTRB 3.1.1	Recognise an ATCO's working environment.	1	Area control unit, approach control unit, aerodrome control unit
BASIC INTRB 3.1.2	Recognise career developments.	1	*Optional content: OJT instructor, supervisor, operational managerial posts, non-operational posts*

SUBJECT 2: AVIATION LAW

The subject objective is:

Learners shall apply the regulations governing the rules of the air, airspace and flight planning and explain their development or, where applicable, their incorporation into national legislation.

TOPIC LAWB 1 — INTRODUCTION TO AVIATION LAW

Subtopic LAWB 1.1 — Relevance of aviation law

BASIC LAWB 1.1.1	State the necessity for air law, the sources and development of aviation law.	1	Relevant EU legislation, ICAO Convention *Optional content: ICAO Annex 2, national aviation law*
BASIC LAWB 1.1.2	Name the key national and international aviation organisations.	1	*Optional content: ICAO, ECAC, EASA, EUROCONTROL, national authority*
BASIC LAWB 1.1.3	Describe the impact these organisations have on ATC and their interaction with each other.	2	

TOPIC LAWB 2 — INTERNATIONAL ORGANISATIONS

Subtopic LAWB 2.1 — ICAO

BASIC LAWB 2.1.1	Explain the purpose and function of ICAO.	2	
BASIC LAWB 2.1.2	Describe the methods by which ICAO notifies and implements legislation.	2	SARPs, PANS, ICAO Annexes, ICAO documents *Optional content: regional offices*

Subtopic LAWB 2.2 — European and other agencies

BASIC LAWB 2.2.1	Explain the purpose and functions of EUROCONTROL.	2	Network manager function
BASIC LAWB 2.2.2	Explain the purpose and functions of EASA.	2	
BASIC LAWB 2.2.3	State the purpose and function of other international agencies and their relevance to air traffic operations.	1	*Optional content: ECAC, EU, ITU, CANSO*

Subtopic LAWB 2.3 — Aviation associations

BASIC LAWB 2.3.1	State the purpose of controller, pilot, airline and airspace user associations and their interaction with ATC.	1	*Optional content: IFATCA, IFALPA, IATA, AEA, IAOPA, IACA, military services, ETF, ATCEUC*

TOPIC LAWB 3 — NATIONAL ORGANISATIONS

Subtopic LAWB 3.1 — Purpose and function

BASIC LAWB 3.1.1	Describe the purpose and function of appropriate national agencies and their relevance to air traffic operations.	2	*Optional content: civil aviation administration agencies, government agencies*

Subtopic LAWB 3.2 — National legislative procedures

BASIC LAWB 3.2.1	Describe the means by which legislation is implemented, notified and updated.	2	ICAO Annex 15 *Optional content: AIS, AIPs, AIRAC, SUPs, AICs, NOTAMs, integrated aeronautical information package, national legislation, letters of agreement, operations manual*
BASIC LAWB 3.2.2	Recognise the information contained in the different parts of the AIP.	1	

Subtopic LAWB 3.3 — Competent authority

BASIC LAWB 3.3.1	Name the competent authority responsible for licensing and enforcing legislation and operational procedures.	1	
BASIC LAWB 3.3.2	Describe how the competent authority carries out its safety regulation responsibilities.	2	

Subtopic LAWB 3.4 — National aviation associations

BASIC LAWB 3.4.1	State the purpose of national controller, pilot, airline and airspace user associations.	1	

TOPIC LAWB 4 — ATS SAFETY MANAGEMENT

Subtopic LAWB 4.1 — Safety regulation

BASIC LAWB 4.1.1	Describe the need for safety regulation.	2	Regulation (EC) No 216/2008[6] *Optional content: Regulation (EU) No 1034/2011[7], national regulations*
BASIC LAWB 4.1.2	Describe the general principles of the safety organisation.	2	Safety regulation *Optional content: Regulation (EU) No 1035/2011[8], national regulations*
BASIC LAWB 4.1.3	Explain the impact of safety regulation on the controller.	2	*Optional content: Regulation (EU) 2015/340[9] on ATCO LIcensing*

Subtopic LAWB 4.2 — Safety management system

BASIC LAWB 4.2.1	Explain the regulatory requirements of safety management systems in ATM.	2	Regulation (EU) No 1035/2011
BASIC LAWB 4.2.2	Explain the principles of the safety management systems.	2	Regulation (EU) No 1035/2011
BASIC LAWB 4.2.3	Describe the safety assessment methodology.	2	Regulation (EU) No 1035/2011, Regulation (EU) No 1034/2011 *Optional content: EATMP Air navigation system safety assessment methodology, national regulations*

TOPIC LAWB 5 — RULES AND REGULATIONS

Subtopic LAWB 5.1 — Units of measurement

BASIC LAWB 5.1.1	Describe the units of measurement used in aviation.	2	Council Directive 80/181/EEC[10] on units of measurement

6 Regulation (EC) No 216/2008 of the European Parliament and of the Council of 20 February 2008 on common rules in the field of civil aviation and establishing a European Aviation Safety Agency, and repealing Council Directive 91/670/EEC, Regulation (EC) No 1592/2002 and Directive 2004/36/EC (OJ L 79, 19.3.2008, p. 1), as last amended.

7 Commission Implementing Regulation (EU) No 1034/2011 of 17 October 2011 on safety oversight in air traffic management and air navigation services and amending Regulation (EU) No 691/2010 (OJ L 271, 18.10.2011, p. 15).

8 Commission Implementing Regulation (EU) No 1035/2011 of 17 October 2011 laying down common requirements for the provision of air navigation services and amending Regulations (EC) No 482/2008 and (EU) No 691/2010(OJ L 271, 18.10.2011, p. 23).

9 Commission Regulation (EU) 2015/340 of 20 February 2015 laying down technical requirements and administrative procedures relating to air traffic controllers' licences and certificates pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council, amending Commission Implementing Regulation (EU) No 923/2012 and repealing Commission Regulation (EU) No 805/2011 (OJ L 63, 6.3.2015, p. 1)

10 Council Directive 80/181/EEC of 20 December 1979 on the approximation of the laws of the Member States relating to units of measurement and on the repeal of Directive 71/354/EEC (OJ L 39, 15.2.1980, p. 40).

Subtopic LAWB 5.2 — ATCO licensing/certification			
BASIC LAWB 5.2.1	Explain the ATCO licensing/certification process.	2	Regulation (EU) 2015/340 on ATCO Licensing, approved training courses; ATCO licences, ratings and endorsements *Optional content: national processes*
BASIC LAWB 5.2.2	Explain the privileges and limitations of controller licences.	2	Regulation (EU) 2015/340 on ATCO Licensing
Subtopic LAWB 5.3 — Overview of ANS and ATS			
BASIC LAWB 5.3.1	Differentiate between the Air Navigation Services.	2	Regulation (EC) No 216/2008, Regulation (EC) No 549/2004[11]
BASIC LAWB 5.3.2	Explain the considerations which determine the need for the ATS.	2	ICAO Annex 11
BASIC LAWB 5.3.3	Differentiate between the ATS.	2	ATCS, ADVS, FIS, ALRS
BASIC LAWB 5.3.4	Explain the objectives of ATS.	2	Regulation (EU) No 923/2012[12]
Subtopic LAWB 5.4 — Rules of the air			
BASIC LAWB 5.4.1	Explain the rules of the air.	2	Regulation (EU) No 923/2012
BASIC LAWB 5.4.2	State any notified differences with ICAO.	1	Regulation (EU) No 923/2012 *Optional content: Supplements to ICAO Annex 2 and ICAO Annex 11*
BASIC LAWB 5.4.3	Appreciate the influence of relevant flight rules on ATC.	3	General flight rules, instrument flight rules, visual flight rules
BASIC LAWB 5.4.4	Appreciate the differences between flying in accordance with VFR and IFR, in VMC and IMC.	3	Regulation (EU) No 923/2012
Subtopic LAWB 5.5 — Airspace and ATS routes			

[11] Regulation (EC) No 549/2004 of the European Parliament and of the Council of 10 March 2004 laying down the framework for the creation of the single European sky (the framework Regulation) — Statement by the Member States on military issues related to the single European sky (OJ L 96, 31.3.2004, p. 1).

[12] Commission Implementing Regulation (EU) No 923/2012 of 26 September 2012 laying down the common rules of the air and operational provisions regarding services and procedures in air navigation and amending Implementing Regulation (EU) No 1035/2011 and Regulations (EC) No 1265/2007, (EC) No 1794/2006, (EC) No 730/2006, (EC) No 1033/2006 and (EU) No 255/2010 (OJ L 281, 13.10.2012, p. 1).

BASIC LAWB 5.5.1	Explain airspace classification.	2	Regulation (EU) No 923/2012
BASIC LAWB 5.5.2	Differentiate between the different types of airspace.	2	*Optional content: control zones, control areas, airways, upper and lower airspace, restricted areas, prohibited and danger areas, FIR, aerodrome traffic zone, etc.*
BASIC LAWB 5.5.3	Differentiate between the different types of ATS routes.	2	Airway, arrival route, departure route, advisory route, controlled route, uncontrolled route, etc.
BASIC LAWB 5.5.4	Decode information from aeronautical charts.	3	*Optional content: control zones, control areas, ATS routes, upper and lower airspace, restricted areas, prohibited and danger areas, FIR, aerodrome traffic zone, etc.*
Subtopic LAWB 5.6 — Flight plan			
BASIC LAWB 5.6.1	Explain the functions of a flight plan.	2	Regulation (EU) No 923/2012, ICAO Doc 4444
BASIC LAWB 5.6.2	Explain the different types of flight plans and associated update messages.	2	Regulation (EU) No 923/2012, ICAO Doc 4444
BASIC LAWB 5.6.3	Explain the pilot's responsibilities in relation to adherence to flight plan.	2	Inadvertent changes, intended changes, position reporting
BASIC LAWB 5.6.4	Describe flight plan processing.	2	*Optional content: AFTN, IFPS*
Subtopic LAWB 5.7 — Aerodromes			
BASIC LAWB 5.7.1	Describe the general design and layout of an aerodrome.	2	Runway(s), taxiways, apron, movement area, manoeuvring area, designated positions on an aerodrome
BASIC LAWB 5.7.2	Explain the numbering system and orientation of runways.	2	Regulation (EU) No 139/2014[13], EASA ED Decision 2014/013/R 'CS-ADR-DSN — Initial issue'[14], EASA ED Decision 2014/012/R 'ADR AMC/GM — Initial Issue'[15]

[13] Commission Regulation (EU) No 139/2014 of 12 February 2014 laying down requirements and administrative procedures related to aerodromes pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council (OJ L 44, 14.2.2014, p. 1).

[14] Decision 2014/013/R of the Executive Director of the Agency of 27 February 2014 adopting Certification Specifications and Guidance Material for Aerodromes Design ('CS-ADR-DSN — Initial issue') (http://www.easa.europa.eu/document-library/agency-decisions/ed-decision-2014013r).

[15] Decision 2014/012/R of the Executive Director of the Agency of 27 February 2014 adopting Acceptable Means of Compliance and Guidance Material to Regulation (EU) No 139/2014 ('AMC/GM for Aerodromes — Initial Issue') (http://www.easa.europa.eu/document-library/agency-decisions/ed-decision-2014012r).

BASIC LAWB 5.7.3	Differentiate between different types of aerodromes.	2	Controlled, uncontrolled *Optional content: military, international, regional*
BASIC LAWB 5.7.4	Describe designated positions in the traffic circuit.	2	
BASIC LAWB 5.7.5	List the factors affecting the selection of runway in use.	1	

Subtopic LAWB 5.8 — Holding procedures for IFR flights

BASIC LAWB 5.8.1	Describe the purpose of holding.	2	Traffic management, weather, pilot request, ICAO Doc 4444, ICAO Doc 8168
BASIC LAWB 5.8.2	Describe the types of holding patterns.	2	Published, non-published
BASIC LAWB 5.8.3	Describe an ICAO holding pattern.	2	ICAO Doc 8168 — Parts of an IFR holding pattern, entry/exit procedures, dimensions of patterns, protected airspace, holding areas, alignment, rates of turns, holding times, expect further clearance, Expected Approach Times (EATs)
BASIC LAWB 5.8.4	Describe the factors affecting the holding pattern.	2	Effect of speed, effect of level used, effect of navigation aid in use, turbulence

Subtopic LAWB 5.9 — Holding procedures for VFR flights

BASIC LAWB 5.9.1	Describe VFR holding.	2	

SUBJECT 3: AIR TRAFFIC MANAGEMENT

The subject objective is:

Learners shall describe the basic principles of air traffic management and apply basic operational procedures.

TOPIC ATMB 1 — AIR TRAFFIC MANAGEMENT

Subtopic ATMB 1.1 — Application of units of measurement

BASIC ATMB 1.1.1	Apply the units of measurement appropriate to ATM.	3	

Subtopic ATMB 1.2 — Air traffic control (ATC) service

BASIC ATMB 1.2.1	Define ATC service.	1	Regulation (EU) No 923/2012
BASIC ATMB 1.2.2	Explain the division of the ATC service.	2	Regulation (EC) No 549/2004, ICAO Annex 11
BASIC ATMB 1.2.3	Explain the responsibility for the provision of the ATC service.	2	ICAO Annex 11
BASIC ATMB 1.2.4	Differentiate between the different methods of providing ATC services.	2	Aerodrome, surveillance, procedural

Subtopic ATMB 1.3 — Flight information service (FIS)

BASIC ATMB 1.3.1	Define FIS.	1	Regulation (EU) No 923/2012
BASIC ATMB 1.3.2	Describe the scope of the FIS.	2	Regulation (EU) No 923/2012
BASIC ATMB 1.3.3	Explain the responsibility for the provision of the FIS.	2	Regulation (EU) No 923/2012, ICAO Doc 4444
BASIC ATMB 1.3.4	State the methods of transmitting information.	1	*Optional content: RTF, data link, ATIS, VOLMET, etc.*
BASIC ATMB 1.3.5	List the content of ATIS and VOLMET.	1	Regulation (EU) No 923/2012, ICAO Annex 3 *Optional content: meteorological data obtained by data link*
BASIC ATMB 1.3.6	Issue information to aircraft.	3	*Optional content: SIGMET, serviceability of navaids, weather, flight safety information, essential traffic, essential local traffic, information related to aerodrome conditions, etc.*

Subtopic ATMB 1.4 — Alerting service			
BASIC ATMB 1.4.1	Define ALRS.	1	Regulation (EU) No 923/2012
BASIC ATMB 1.4.2	Describe the scope of the ALRS.	2	Regulation (EU) No 923/2012, ICAO Annex 11
BASIC ATMB 1.4.3	Explain the responsibility for the provision of the ALRS.	2	ICAO Doc 4444
BASIC ATMB 1.4.4	Differentiate between the phases of emergency.	2	Uncertainty, alert, distress
BASIC ATMB 1.4.5	Describe the organisation of an ALRS.	2	Responsibilities, local organisation
BASIC ATMB 1.4.6	Describe the cooperation between units providing the alerting services and the SAR units.	2	
BASIC ATMB 1.4.7	Differentiate between distress and urgency signals.	2	Mayday, Pan Pan, Pan Pan Medical *Optional content: visual signals, etc.*
Subtopic ATMB 1.5 — Air traffic advisory service			
BASIC ATMB 1.5.1	Define air traffic advisory service.	1	Regulation (EU) No 923/2012
BASIC ATMB 1.5.2	Describe the scope of the air traffic advisory service.	2	ICAO Doc 4444
BASIC ATMB 1.5.3	Explain the responsibility for the provision of the air traffic advisory service.	2	ICAO Doc 4444
BASIC ATMB 1.5.4	State to which flights air traffic advisory service shall be provided.	1	ICAO Doc 4444
Subtopic ATMB 1.6 — ATS system capacity and air traffic flow management			
BASIC ATMB 1.6.1	Define ATFM.	1	Regulation (EC) No 549/2004
BASIC ATMB 1.6.2	State the scope of capacity management.	1	Regulation (EU) No 255/2010[16], ICAO Doc 4444

[16] Commission Regulation (EU) No 255/2010 of 25 March 2010 laying down common rules on air traffic flow management (OJ L 80, 26.3.2010, p. 10).

BASIC ATMB 1.6.3	Describe the scope of air traffic flow capacity management (ATFCM).	2	Regulation (EU) No 255/2010, ICAO Doc 4444, EUROCONTROL ATFCM Users Manual
BASIC ATMB 1.6.4	Explain the responsibility for the provision of ATFCM.	2	Regulation (EU) No 255/2010, ICAO Doc 4444, EUROCONTROL ATFCM Users Manual
BASIC ATMB 1.6.5	Explain the methods of providing ATFCM.	2	Regulation (EU) No 255/2010, ICAO Doc 4444, EUROCONTROL ATFCM Users Manual
Subtopic ATMB 1.7 — Airspace management (ASM)			
BASIC ATMB 1.7.1	Define ASM.	1	Regulation (EC) No 549/2004 *Optional content: Regulation (EC) No 2150/2005*[17]
BASIC ATMB 1.7.2	Describe the scope of ASM.	2	Regulation (EC) No 2150/2005 *Optional content: FABs, EUROCONTROL Specification for the application of the FUA*
BASIC ATMB 1.7.3	Explain the responsibility for the provision of ASM.	2	Regulation (EC) No 2150/2005 *Optional content: EUROCONTROL Specification for the application of the FUA*
BASIC ATMB 1.7.4	Explain the methods of managing airspace.	2	Regulation (EC) No 2150/2005 *Optional content: Flexible use of airspace, airspace design, CDRs, TSAs*

[17] Commission Regulation (EC) No 2150/2005 of 23 December 2005 laying down common rules for the flexible use of airspace (OJ L 342, 24.12.2005, p. 20).

TOPIC ATMB 2 — ALTIMETRY AND LEVEL ALLOCATION

Subtopic ATMB 2.1 — Altimetry			
BASIC ATMB 2.1.1	Appreciate the relationship between height, altitude and flight level.	3	QFE, QNH, standard pressure
Subtopic ATMB 2.2 — Transition level			
BASIC ATMB 2.2.1	Appreciate the relationship between transition level, transition altitude and transition layer.	3	ICAO Doc 4444, ICAO Doc 8168
BASIC ATMB 2.2.2	Calculate the appropriate levels.	3	*Optional content: transition level, transition layer, height, lowest useable flight level, vertical distance to airspace boundaries*
Subtopic ATMB 2.3 — Level allocation			
BASIC ATMB 2.3.1	Describe the cruising level allocation system.	2	Regulation (EU) No 923/2012, table of cruising levels
BASIC ATMB 2.3.2	Choose the appropriate levels.	3	Flight levels, altitudes, heights

TOPIC ATMB 3 — RADIOTELEPHONY (RTF)

Subtopic ATMB 3.1 — RTF general operating procedures			
BASIC ATMB 3.1.1	Explain the need for approved phraseology.	2	
BASIC ATMB 3.1.2	Use approved phraseology.	3	Parts of the following documents relevant to the Basic course: ICAO Doc 4444, ICAO Doc 9432 RTF manual — standard words and phrases, ICAO Annex 10, Vol. 2
BASIC ATMB 3.1.3	Perform communication effectively.	3	Communication techniques, readback/verification of readback

TOPIC ATMB 4 — ATC CLEARANCES AND ATC INSTRUCTIONS

Subtopic ATMB 4.1 — Type and content of ATC clearances			
BASIC ATMB 4.1.1	Define ATC clearance.	1	Regulation (EU) No 923/2012
BASIC ATMB 4.1.2	Describe the contents of an ATC clearance.	2	Regulation (EU) No 923/2012, ICAO Doc 4444
BASIC ATMB 4.1.3	Issue appropriate ATC clearances.	3	ICAO Doc 4444 *Optional content: national documents*
Subtopic ATMB 4.2 — ATC instructions			
BASIC ATMB 4.2.1	Define ATC Instructions.	1	Regulation (EU) No 923/2012
BASIC ATMB 4.2.2	Describe the contents of an ATC instruction.	2	ICAO Doc 4444, ICAO Annex 11
BASIC ATMB 4.2.3	Issue appropriate ATC instructions.	3	ICAO Doc 4444 *Optional content: national documents*

TOPIC ATMB 5 — COORDINATION

Subtopic ATMB 5.1 — Principles, types and content of coordination			
BASIC ATMB 5.1.1	Explain the principles, types and content of coordination.	2	ICAO Doc 4444, ICAO Annex 11 *Optional content: notification, negotiation, agreement, transfer of flight data and local agreements, etc.*
Subtopic ATMB 5.2 — Necessity for coordination			
BASIC ATMB 5.2.1	Appreciate the need for coordination.	3	*Optional content: ICAO Doc 4444, local procedures, letters of agreements*
BASIC ATMB 5.2.2	Differentiate between transfer of control and transfer of communication procedures.	2	
Subtopic ATMB 5.3 — Means of coordination			
BASIC ATMB 5.3.1	Describe the means of coordination	2	*Optional content: data link, telephone, intercom, voice, etc.*
BASIC ATMB 5.3.2	Use the available means for coordination.	3	

TOPIC ATMB 6 — DATA DISPLAY

Subtopic ATMB 6.1 — Data extraction			
BASIC ATMB 6.1.1	Encode and decode an appropriate selection of standard ICAO abbreviations.	3	*Optional content: ICAO Doc 8585, ICAO Doc 8643, ICAO Doc 7910*
BASIC ATMB 6.1.2	Extract pertinent data from relevant sources to produce a flight progress display.	3	Pilot reports, coordination, data exchange *Optional content: flight plan*
BASIC ATMB 6.1.3	Encode and decode flight plans (including supplementary information).	3	ICAO format, AFTN format
Subtopic ATMB 6.2 — Data management			
BASIC ATMB 6.2.1	Update the situation display to accurately reflect the traffic situation.	3	*Optional content: strip marking symbols, strip movement procedures, electronic data, label*

TOPIC ATMB 7 — SEPARATIONS

Subtopic ATMB 7.1 — Vertical separation and procedures			
BASIC ATMB 7.1.1	State the vertical separation standards.	1	ICAO Doc 4444
BASIC ATMB 7.1.2	Explain the vertical separation procedures.	2	ICAO Doc 4444
Subtopic ATMB 7.2 — Horizontal separation and procedures			
BASIC ATMB 7.2.1	State the longitudinal separation standards and procedures based on time and distance.	1	ICAO Doc 4444
BASIC ATMB 7.2.2	State the lateral separation standards and procedures.	1	ICAO Doc 4444
Subtopic ATMB 7.3 — Visual separation			
BASIC ATMB 7.3.1	State the occasions when clearance to fly by maintaining own separation while in VMC can be used.	1	
Subtopic ATMB 7.4 — Aerodrome separation and procedures			
BASIC ATMB 7.4.1	State the aerodrome separation standards.	1	Separation on the manoeuvring area, in the traffic circuit, for departing and arriving aircraft

BASIC ATMB 7.4.2	Explain the aerodrome separation procedures.	2	ICAO Doc 4444
BASIC ATMB 7.4.3	Define essential local traffic.	1	ICAO Doc 4444
Subtopic ATMB 7.5 — Separation based on ATS surveillance systems			
BASIC ATMB 7.5.1	Explain the use of ATS surveillance systems in ATS.	2	Separation, identification, monitoring, vectoring, expedition and assistance to traffic *Optional content: ICAO Doc 4444*
BASIC ATMB 7.5.2	Explain the ATS surveillance systems separation standards and procedures.	2	ICAO Doc 4444
Subtopic ATMB 7.6 — Wake turbulence separation			
BASIC ATMB 7.6.1	Explain the wake turbulence separations.	2	ICAO Doc 4444
TOPIC ATMB 8 — AIRBORNE COLLISION AVOIDANCE SYSTEMS AND GROUND-BASED SAFETY NETS			
Subtopic ATMB 8.1 — Airborne collision avoidance systems			
BASIC ATMB 8.1.1	State the European Union requirement for carriage of airborne collision avoidance system.	1	Regulation (EU) No 1332/2011[18]
BASIC ATMB 8.1.2	Explain the main characteristics of airborne warning systems and their relevance to ATC operations.	2	ACAS, TAWS *Optional content: TCAS, EGPWS, wind shear alerts*
BASIC ATMB 8.1.3	Explain the function of ACAS Traffic Alerts and Resolution Advisories.	2	Regulation (EU) No 1332/2011, ICAO Doc 8168
BASIC ATMB 8.1.4	List the actions of the pilot in case of TA and RA.	1	Regulation (EU) No 1332/2011, ICAO Doc 8168
BASIC ATMB 8.1.5	List the ACAS limitations.	1	ICAO Doc 9863
Subtopic ATMB 8.2 — Ground-based safety nets			
BASIC ATMB 8.2.1	Explain the main characteristics of ground-based safety nets and their relevance to ATC operations.	2	*Optional content: STCA, MSAW, APW, APM*

[18] Commission Regulation (EU) No 1332/2011 of 16 December 2011 laying down common airspace usage requirements and operating procedures for airborne collision avoidance (OJ L 336, 20.12.2011, p. 20).

TOPIC ATMB 9 — BASIC PRACTICAL SKILLS

Subtopic ATMB 9.1 — Traffic management process

BASIC ATMB 9.1.1	Consider human information processing in the provision of ATC.	2	Situational awareness, conflict detection, planning, decision-making, prioritisation, execution
BASIC ATMB 9.1.2	Consider the need for verification that actions are carried out.	2	Monitoring

Subtopic ATMB 9.2 — Basic practical skills applicable to all ratings

BASIC ATMB 9.2.1	Verify that the settings of the working position are appropriate.	3	
BASIC ATMB 9.2.2	Operate the available working position equipment.	3	
BASIC ATMB 9.2.3	Maintain situational awareness by monitoring traffic.	3	Information gathering, scanning, planning
BASIC ATMB 9.2.4	Appreciate priority of actions.	3	
BASIC ATMB 9.2.5	Execute selected plan.	3	
BASIC ATMB 9.2.6	Apply the prescribed procedures for the area of responsibility.	3	*Optional content: LOPs, transfer of control and communication, level allocation, inbound and outbound procedures*
BASIC ATMB 9.2.7	Appreciate relative velocity between aircraft.	3	
BASIC ATMB 9.2.8	Identify separation problems.	3	
BASIC ATMB 9.2.9	Choose the appropriate separation methods.	3	
BASIC ATMB 9.2.10	Apply separation.	3	*Optional content: vertical, longitudinal, lateral, aerodrome, based on ATS surveillance systems, distances from airspace boundaries*

Subtopic ATMB 9.3 — Basic practical skills applicable to aerodrome			
BASIC ATMB 9.3.1	Perform the basic functions of aerodrome control.	3	
BASIC ATMB 9.3.2	Perform the control of aerodrome traffic.	3	Single runway operations including VFR and IFR traffic
Subtopic ATMB 9.4 — Basic practical skills applicable to surveillance			
BASIC ATMB 9.4.1	Explain the methods and procedures of establishing identification.	2	ICAO Doc 4444
BASIC ATMB 9.4.2	Apply the procedures for establishing identification.	3	Any of the ATS surveillance systems identification methods
BASIC ATMB 9.4.3	Estimate the heading for a new track and the distance to the next waypoint.	3	
BASIC ATMB 9.4.4	Apply vectoring techniques.	3	
BASIC ATMB 9.4.5	Conduct level changes.	3	*Optional content: cruising level allocation, requested level change, climb/descent to exit level, descent to an altitude or a height*

SUBJECT 4: METEOROLOGY

The subject objective is:

Learners shall describe how meteorology affects ATS operations and aircraft performance and apply meteorological information in the basic operational procedures of ATS.

TOPIC METB 1 — INTRODUCTION TO METEOROLOGY

Subtopic METB 1.1 — Application of units of measurement

BASIC METB 1.1.1	Apply the units of measurement appropriate to meteorology.	3	

Subtopic METB 1.2 — Aviation and meteorology

BASIC METB 1.2.1	Explain the relevance of meteorology in aviation.	2	
BASIC METB 1.2.2	Explain the requirements for the provision of meteorological information available to operators, flight crew members, and to air traffic services.	2	ICAO Annex 3, ICAO Annex 11
BASIC METB 1.2.3	State the meteorological hazards to aviation.	1	Turbulence, thunderstorms, icing, micro bursts, squall, macro burst, wind shear

Subtopic METB 1.3 — Organisation of meteorological service

BASIC METB 1.3.1	Name the basic duties, organisation and working methods of meteorological offices.	1	*Optional content: WAFS, WAFC, MWO, VAAC, TCAC, SADIS*
BASIC METB 1.3.2	State the International and National standards for coordination between ATS and MET services.	1	

TOPIC METB 2 — ATMOSPHERE

Subtopic METB 2.1 — Composition and structure

BASIC METB 2.1.1	State the composition and structure of the atmosphere.	1	Gases, layers
BASIC METB 2.1.2	Describe the basic characteristics of the atmospheric parameters measured.	2	Temperature, pressure, wind, humidity, density
BASIC METB 2.1.3	List the tools used for the collection of meteorological data.	1	*Optional content: barometer, thermometer, ceilometer, anemometer, weather balloons, transmissometer, radar, satellites, etc.*

Subtopic METB 2.2 — Standard atmosphere

BASIC METB 2.2.1	Describe the elements of the ISA.	2	Temperature, pressure, density
BASIC METB 2.2.2	State the reasons why the ISA has been defined.	1	

Subtopic METB 2.3 — Heat and temperature

BASIC METB 2.3.1	Define the processes by which heat is transferred and how the atmosphere is heated.	1	Radiation, convection, advection, conduction, water cycle
BASIC METB 2.3.2	Describe how temperature varies.	2	Adiabatic processes, lapse rates, stability, instability
BASIC METB 2.3.3	State the influencing factors on surface temperature.	1	

Subtopic METB 2.4 — Water in the atmosphere

BASIC METB 2.4.1	Differentiate between the different processes related to atmospheric moisture.	2	Condensation, evaporation, sublimation, saturation
BASIC METB 2.4.2	Characterise relative humidity, dew point and latent heat.	2	

Subtopic METB 2.5 — Air pressure

BASIC METB 2.5.1	Describe the relationship between pressure, temperature, density and height.	2	
BASIC METB 2.5.2	Explain the relationship between pressure settings.	2	QFE, QNH, standard pressure
BASIC METB 2.5.3	Explain the effect of air pressure and temperature on altimeter readings and the true altitude of aircraft.	2	
BASIC METB 2.5.4	State how atmospheric pressure is measured.	1	

TOPIC METB 3 — ATMOSPHERIC CIRCULATION

Subtopic METB 3.1 — General air circulation

BASIC METB 3.1.1	State the major atmospheric circulation features on the Earth.	1	*Optional content: Hadley cells, high and low belts, polar fronts, westerly winds, upper-level jet streams*

Subtopic METB 3.2 — Air masses and frontal systems

BASIC METB 3.2.1	Describe the origin and movement of typical air masses and their general effect on European weather.	2	Polar, arctic, tropical, equatorial (maritime and continental)
BASIC METB 3.2.2	Describe the main isobaric features.	2	Cyclones, anticyclones, ridge, trough
BASIC METB 3.2.3	Describe the difference between various fronts and the associated weather.	2	Warm front, cold front, occluded front

Subtopic METB 3.3 — Mesoscale systems

BASIC METB 3.3.1	Describe the main phenomena caused by mesoscale systems.	2	Mountain waves, Föhn, slope and valley winds, thunderstorm, squall line *Optional content: land/sea breezes, tornadoes, land spouts, waterspouts*
BASIC METB 3.3.2	Explain the relevance of mesoscale systems to aviation.	2	

Subtopic METB 3.4 — Wind

BASIC METB 3.4.1	Explain the significance of wind phenomena and types.	2	*Optional content: veering, backing, gusting, jet streams, land/sea breezes, Föhn, surface, upper*
BASIC METB 3.4.2	State how wind is measured.	1	
BASIC METB 3.4.3	Explain effect of forces which influence wind.	2	

TOPIC METB 4 — METEOROLOGICAL PHENOMENA

Subtopic METB 4.1 — Clouds

BASIC METB 4.1.1	Explain the different conditions for the formation of clouds.	2	
BASIC METB 4.1.2	Recognise different cloud types.	1	
BASIC METB 4.1.3	State the cloud types main characteristics.	1	
BASIC METB 4.1.4	State how the cloud base and the amount of cloud are measured and/or observed.	1	
BASIC METB 4.1.5	Define cloud base and ceiling.	1	
BASIC METB 4.1.6	Differentiate between cloud base and ceiling.	2	

Subtopic METB 4.2 — Types of precipitation

BASIC METB 4.2.1	Explain the significance of precipitation in aviation.	2	
BASIC METB 4.2.2	Describe types of precipitation and their corresponding cloud families.	2	*Optional content: rain, snow, snow grains, hail, ice pellets, ice crystals, drizzle*

Subtopic METB 4.3 — Visibility

BASIC METB 4.3.1	Explain the causes of atmospheric obscurity.	2	
BASIC METB 4.3.2	Differentiate between different types of visibility.	2	Horizontal visibility, slant visibility, prevailing visibility, RVR
BASIC METB 4.3.3	State how visibility is measured.	1	
BASIC METB 4.3.4	Explain the significance of visibility in aviation.	2	

Subtopic METB 4.4 — Meteorological hazards

BASIC METB 4.4.1	Explain the meteorological hazards to aviation.	2	Turbulence, icing, micro bursts, macro burst, wind shear *Optional content: thunderstorms, squall*
BASIC METB 4.4.2	Describe the effect of meteorological hazards on aviation.	2	

TOPIC METB 5 — METEOROLOGICAL INFORMATION FOR AVIATION

Subtopic METB 5.1 — Messages and reports

BASIC METB 5.1.1	Decode the content of weather reports and forecasts.	3	METAR, SPECI, TAF, SIGMET *Optional content: local reports*

SUBJECT 5: NAVIGATION

The subject objective is:

Learners shall explain the basic principles of navigation and use this knowledge in ATS operations.

TOPIC NAVB 1 — INTRODUCTION TO NAVIGATION

Subtopic NAVB 1.1 — Application of units of measurement

BASIC NAVB 1.1.1	Apply the units of measurement appropriate to navigation.	3	

Subtopic NAVB 1.2 — Purpose and use of navigation

BASIC NAVB 1.2.1	Explain the need for navigation in aviation.	2	
BASIC NAVB 1.2.2	Characterise navigation methods.	2	*Optional content: historical overview, celestial, on-board, radio, satellites*

TOPIC NAVB 2 — THE EARTH

Subtopic NAVB 2.1 — Place and movement of the Earth

BASIC NAVB 2.1.1	Explain the Earth's properties and their effects.	2	*Optional content: form, size, rotation, revolution in space, seasons, day, night, twilight, units of time, time zones, UTC*

Subtopic NAVB 2.2 — System of coordinates, direction and distance

BASIC NAVB 2.2.1	Characterise the general principles of a grid system.	2	*Optional content: degrees, minutes, seconds, WGS-84, latitude/longitude*
BASIC NAVB 2.2.2	Explain direction and distance on a globe.	2	*Optional content: great circle, small circle, rhumb line, cardinal points, intercardinal points*
BASIC NAVB 2.2.3	Estimate position on the Earth's surface.	3	*Optional content: latitude/longitude*
BASIC NAVB 2.2.4	Estimate distance and direction between two points.	3	

Subtopic NAVB 2.3 — Magnetism			
BASIC NAVB 2.3.1	Explain the general principles of the Earth's magnetism.	2	True north, magnetic north, variation, deviation, inclination
BASIC NAVB 2.3.2	Calculate conversions between the three north designations.	3	True north, magnetic north, compass north

TOPIC NAVB 3 — MAPS AND AERONAUTICAL CHARTS

Subtopic NAVB 3.1 — Map making and projections			
BASIC NAVB 3.1.1	State how the Earth is projected to create a map.	1	Types of projection
BASIC NAVB 3.1.2	Describe the properties of a map.	2	Projection, scale
BASIC NAVB 3.1.3	Describe the properties of an ideal map.	2	*Optional content: conformality, constant scale, true azimuth, rhumb lines and great circles*
BASIC NAVB 3.1.4	State the properties and use of different projections.	1	*Optional content: Lambert, Mercator, stereographic*
Subtopic NAVB 3.2 — Maps and charts used in aviation			
BASIC NAVB 3.2.1	Differentiate between the various maps and charts.	2	
BASIC NAVB 3.2.2	State the specific use of various maps and charts.	1	
BASIC NAVB 3.2.3	Decode symbols and information displayed on maps and charts.	3	*Optional content: topographical features, NAV aids, fixes etc.*

TOPIC NAVB 4 — NAVIGATIONAL BASICS

Subtopic NAVB 4.1 — Influence of wind			
BASIC NAVB 4.1.1	Appreciate the influence of wind on the flight path.	3	Heading, track, drift, wind vector
Subtopic NAVB 4.2 — Speed			
BASIC NAVB 4.2.1	Explain the relationship between various speeds used in aviation.	2	True air speed, ground speed, indicated air speed (including Mach number)
BASIC NAVB 4.2.2	Appreciate the use of various speeds in ATC.	3	
Subtopic NAVB 4.3 — Visual navigation			
BASIC NAVB 4.3.1	Differentiate between the methods of visual navigation.	2	Map reading, visual reference *Optional content: dead-reckoning*
Subtopic NAVB 4.4 — Navigational aspects of flight planning			
BASIC NAVB 4.4.1	Describe the navigational aspects affecting flight planning.	2	*Optional content: fuel/time calculations, min altitudes, alternative routes*

TOPIC NAVB 5 — INSTRUMENT NAVIGATION

Subtopic NAVB 5.1 — Ground-based systems			
BASIC NAVB 5.1.1	Explain the basic working principles of ground-based systems.	2	VDF, NDB, VOR, DME, ILS *Optional content: TACAN, MLS*
BASIC NAVB 5.1.2	State the use of ground-based systems.	1	VDF, NDB, VOR, DME, ILS *Optional content: TACAN, MLS*
BASIC NAVB 5.1.3	Characterise the main radio navigation techniques based on ground-based systems.	2	*Optional content: homing, inbound/ outbound tracking, instrument approach procedures, holding, drift assessment*
BASIC NAVB 5.1.4	Explain the effects of precision and limitations of ground-based systems on the flight.	2	VDF, NDB, VOR, DME, ILS *Optional content: TACAN, MLS*
Subtopic NAVB 5.2 — Inertial navigation systems			
BASIC NAVB 5.2.1	Explain the basic working principles, precision and limitations of on-board systems.	2	*Optional content: INS/IRS*
BASIC NAVB 5.2.2	State the use of on-board systems.	1	

Subtopic NAVB 5.3 — Satellite-based systems			
BASIC NAVB 5.3.1	Explain the basic working principles of positioning systems.	2	*Optional content: GPS, GLONASS, Galileo*
BASIC NAVB 5.3.2	State the basic principles of GNSS concept.	1	Basic, ABAS, SBAS, GBAS
BASIC NAVB 5.3.3	Explain the effects of precision and limitations of satellite-based systems.	2	*Optional content: RAIM, GPS NOTAMs*
Subtopic NAVB 5.4 — Instrument approach procedures			
BASIC NAVB 5.4.1	Recognise various types of instrument approach using aeronautical charts.	1	
BASIC NAVB 5.4.2	Differentiate between precision approach and non-precision approach procedures.	2	
BASIC NAVB 5.4.3	Recognise the different minima used during an instrument approach.	1	
BASIC NAVB 5.4.4	Define the terms obstacle clearance altitude/height and minimum descent altitude/height.	1	
BASIC NAVB 5.4.5	List the instrumental approach fixes.	1	IAF, IF, FAF, FAP, MAPt

TOPIC NAVB 6 — PERFORMANCE BASED NAVIGATION

Subtopic NAVB 6.1 — Principles and benefits of area navigation			
BASIC NAVB 6.1.1	Explain the basic principles of area navigation.	2	*Optional content: ICAO Doc 9613*
BASIC NAVB 6.1.2	State the benefits of area navigation.	1	*Optional content: ICAO Doc 9613*
BASIC NAVB 6.1.3	State the effects of navigational performance accuracy of RNAV systems on the flight.	1	TSE, PDE, NSE, FTE *Optional content: ICAO Doc 9613*

BASIC NAVB 6.1.4	Characterise the main aircraft and avionics functionalities used in area navigation.	2	*Optional content: waypoints transitions (FRT) and path terminators (including RF), fly over and fly by a waypoint, parallel offset*
BASIC NAVB 6.1.5	Characterise the navigational functions of FMS.	2	*Optional content: VNAV, LNAV*
Subtopic NAVB 6.2 — Introduction to PBN			
BASIC NAVB 6.2.1	State the general concept of PBN.	1	*Optional content: ICAO Doc 9613*
BASIC NAVB 6.2.2	Differentiate between RNAV and RNP.	2	On board performance monitoring and alerting
BASIC NAVB 6.2.3	State the navigation infrastructure that may be used in PBN.	1	VOR, DME, GNSS *Optional content: functionality IRS/INS*
BASIC NAVB 6.2.4	State the benefits of PBN concept.	1	*Optional content: global interoperability, limited number of navigation specifications*
Subtopic NAVB 6.3 — PBN applications			
BASIC NAVB 6.3.1	List the navigation applications in use in Europe.	1	En route, terminal/approach *Optional content: RNAV-5 (B-RNAV), RNAV-1 (≈ P-RNAV)*

TOPIC NAVB 7 — DEVELOPMENTS IN NAVIGATION

Subtopic NAVB 7.1 — Future developments			
BASIC NAVB 7.1.1	State future developments in navigation.	1	

SUBJECT 6: AIRCRAFT

The subject objective is:

Learners shall describe the basic principles of the theory of flight and aircraft characteristics and how these influence ATS operations.

TOPIC ACFTB 1 — INTRODUCTION TO AIRCRAFT

Subtopic ACFTB 1.1 — Application of units of measurement

BASIC ACFTB 1.1.1	Apply the units of measurement appropriate to aircraft and principles of flight.	3	

Subtopic ACFTB 1.2 — Aviation and aircraft

BASIC ACFTB 1.2.1	Explain the relevance of theory of flight and aircraft characteristics in ATS operations.	2	

TOPIC ACFTB 2 — PRINCIPLES OF FLIGHT

Subtopic ACFTB 2.1 — Forces acting on aircraft

BASIC ACFTB 2.1.1	Explain the forces acting on an aircraft in flight and their interaction.	2	Lift, thrust, drag, weight during level flight *Optional content: during climb, descent, turn*
BASIC ACFTB 2.1.2	Explain causes and effects of wake turbulence.	2	Induced drag

Subtopic ACFTB 2.2 — Structural components and control of an aircraft

BASIC ACFTB 2.2.1	Describe the main structural components of an aircraft.	2	Rotary and fixed wing, tail plane, fuselage, flap, aileron, elevator, rudder, landing gear
BASIC ACFTB 2.2.2	Explain how the pilot controls the movements of an aircraft.	2	*Optional content: rudder, aileron, elevator, throttle, rotary wing controls*
BASIC ACFTB 2.2.3	Explain the factors affecting aircraft stability.	2	

Subtopic ACFTB 2.3 — Flight envelope			
BASIC ACFTB 2.3.1	Characterise the critical factors which affect aircraft performance.	2	Maximum speeds, minimum and stall speeds, ceiling, critical angle of attack, maximum ROC

TOPIC ACFTB 3 — AIRCRAFT CATEGORIES

Subtopic ACFTB 3.1 — Aircraft categories			
BASIC ACFTB 3.1.1	List the different categories of aircraft.	1	*Optional content: fixed wing, rotary wing, balloon, glider*
Subtopic ACFTB 3.2 — Wake turbulence categories			
BASIC ACFTB 3.2.1	List the wake turbulence categories.	1	ICAO wake turbulence categories
Subtopic ACFTB 3.3 — ICAO approach categories			
BASIC ACFTB 3.3.1	List the ICAO approach categories.	1	ICAO Doc 8168
Subtopic ACFTB 3.4 — Environmental categories			
BASIC ACFTB 3.4.1	List ICAO noise classification.	1	ICAO Annex 16

TOPIC ACFTB 4 — AIRCRAFT DATA

Subtopic ACFTB 4.1 — Recognition			
BASIC ACFTB 4.1.1	Recognise the most commonly used aircraft.	1	
Subtopic ACFTB 4.2 — Performance data			
BASIC ACFTB 4.2.1	State the ICAO aircraft type designators and categories for the most commonly used aircraft.	1	Type designators, approach and wake turbulence categories
BASIC ACFTB 4.2.2	State the standard average performance data of the most commonly used aircraft.	1	Rate of climb/descent, cruising speed, ceiling

TOPIC ACFTB 5 — AIRCRAFT ENGINES

Subtopic ACFTB 5.1 — Piston engines			
BASIC ACFTB 5.1.1	Explain the operating principles, advantages and disadvantages of the piston engine and propeller.	2	Piston engines, fixed pitch, variable pitch, number of blades
Subtopic ACFTB 5.2 — Jet engines			
BASIC ACFTB 5.2.1	Explain the operating principles, advantages and disadvantages of the jet engine.	2	
BASIC ACFTB 5.2.2	List the different types of jet engines.	1	
Subtopic ACFTB 5.3 — Turboprop engines			
BASIC ACFTB 5.3.1	Explain the operating principles, advantages and disadvantages of the turboprop engine and propeller.	2	
Subtopic ACFTB 5.4 — Aviation fuels			
BASIC ACFTB 5.4.1	List the most common aviation fuels.	1	

TOPIC ACFTB 6 — AIRCRAFT SYSTEMS AND INSTRUMENTS

Subtopic ACFTB 6.1 — Flight instruments			
BASIC ACFTB 6.1.1	Explain the basic operating principles and interpretation of the information displayed by flight instruments.	2	Altimeter, air speed indicator, vertical speed indicator, turn and bank indicator, artificial horizon, gyrosyn compass
BASIC ACFTB 6.1.2	Explain the impact of errors and abnormal indications of flight instruments on aircraft operations.	2	*Optional content: pitot-static failures, unreliable gyro source*
Subtopic ACFTB 6.2 — Navigational instruments			
BASIC ACFTB 6.2.1	Describe the basic on-board operating principles and interpretation of the information displayed by navigational instruments/systems.	2	*Optional content: ADF, VOR (TACAN), DME, ILS, MLS, inertial reference system, satellite-based systems*

Subtopic ACFTB 6.3 — Engine instruments			
BASIC ACFTB 6.3.1	List the vital engine monitoring parameters and their associated instruments.	1	*Optional content: oil pressure and temperature, engine temperature, rpm, fuel state and flow*
Subtopic ACFTB 6.4 — Aircraft systems			
BASIC ACFTB 6.4.1	Explain the use of the most common aircraft systems.	2	SSR transponder, GPWS, EFIS, flight director, autopilot, FMS, ice protection systems *Optional content: ADS capability, head-up display, wind shear indicator, weather radar, hydraulic system, electrical system, environmental system*
BASIC ACFTB 6.4.2	Explain the impact of degradation/failure of the most common aircraft systems on aircraft operations.	2	Engine failure *Optional content: hydraulic failure, electrical failure, environmental system failure, degradation of aircraft position source data*

TOPIC ACFTB 7 — FACTORS AFFECTING AIRCRAFT PERFORMANCE

Subtopic ACFTB 7.1 — Take-off factors			
BASIC ACFTB 7.1.1	Explain the factors affecting aircraft during take-off.	2	Runway conditions, runway slope, wind, temperature, aerodrome elevation, aircraft mass
Subtopic ACFTB 7.2 — Climb factors			
BASIC ACFTB 7.2.1	Explain the factors affecting aircraft during climb.	2	Speed, mass, wind, temperature, cabin pressurisation, air density
Subtopic ACFTB 7.3 — Cruise factors			
BASIC ACFTB 7.3.1	Explain the factors affecting aircraft during cruise.	2	Level, cruising speed, wind, mass, cabin pressurisation

Subtopic ACFTB 7.4 — Descent and initial approach factors			
BASIC ACFTB 7.4.1	Explain the factors affecting aircraft during descent.	2	Wind, speed, rate of descent, aircraft configuration, cabin pressurisation
BASIC ACFTB 7.4.2	Explain the factors affecting an aircraft in a holding pattern.	2	Speed, level, turbulence, icing
Subtopic ACFTB 7.5 — Final approach and landing factors			
BASIC ACFTB 7.5.1	Explain the factors affecting aircraft during final approach and landing.	2	Aircraft configuration, mass, wind, wind shear, aerodrome elevation, runway conditions, runway slope
Subtopic ACFTB 7.6 — Economic factors			
BASIC ACFTB 7.6.1	Explain the economic consequences of ATC changes on the flight profile of an aircraft.	2	Routing, flight level, speed, rates of climb or descent
Subtopic ACFTB 7.7 — Environmental factors			
BASIC ACFTB 7.7.1	Explain performance restrictions due to environmental constraints.	2	*Optional content: continuous descent operation (CDO), fuel dumping, noise abatement procedures, minimum flight levels*

SUBJECT 7: HUMAN FACTORS

The subject objective is:

Learners shall characterise factors which affect personal and team performance.

TOPIC HUMB 1 — INTRODUCTION TO HUMAN FACTORS

Subtopic HUMB 1.1 — Learning techniques			
BASIC HUMB 1.1.1	Appreciate appropriate learning techniques.	3	How the influence of interactive techniques can lead to improved learning
Subtopic HUMB 1.2 — Relevance of human factors for ATC			
BASIC HUMB 1.2.1	Explain the relevance and importance of human factors.	2	Historical background, safety impact on ATM, licensing requirements, incidents
Subtopic HUMB 1.3 — Human factors and ATC			
BASIC HUMB 1.3.1	Define human factors.	1	*Optional content: ICAO Human Factors Training Manual*
BASIC HUMB 1.3.2	Explain the relationship between human factors and the aviation environment.	2	*Optional content: ICAO Human Factors Training Manual, visits to the simulator and operational room, SHELL model, PEAR model*
BASIC HUMB 1.3.3	Explain the concept of systems.	2	People, procedures, equipment
BASIC HUMB 1.3.4	Explain ATM in systems terms.	2	
BASIC HUMB 1.3.5	Explain the consequences of a systems failure in ATS.	2	
BASIC HUMB 1.3.6	Explain the need for matching human and equipment.	2	*Optional content: ICAO Human Factors Training Manual*
BASIC HUMB 1.3.7	Explain the information requirement of ATC.	2	Relevant, timely, accurate

BASIC HUMB 1.3.8	Describe the role of the human in the evolution of ATC.	2	*Optional content: history of ATC, airspace, communications, radar, advanced ATS systems, the future of ATC*
BASIC HUMB 1.3.9	Explain the importance of situational awareness for decision making.	2	

TOPIC HUMB 2 — HUMAN PERFORMANCE

Subtopic HUMB 2.1 — Individual behaviour

BASIC HUMB 2.1.1	Explain the differences and commonalities that exist among people.	2	*Optional content: attitudes, cultural, language*
BASIC HUMB 2.1.2	Explain the dangers of boredom.	2	
BASIC HUMB 2.1.3	Explain the dangers of overconfidence and complacency.	2	
BASIC HUMB 2.1.4	Explain the dangers of fatigue.	2	Sleep disturbance, heavy workload

Subtopic HUMB 2.2 — Safety culture and professional conduct

BASIC HUMB 2.2.1	Characterise the role of air traffic controller for positive safety culture.	2	
BASIC HUMB 2.2.2	Describe the need for professional standards in ATC.	2	*Optional content: adherence to rules and regulations etc.*
BASIC HUMB 2.2.3	Appreciate the needed basic professional attitudes appropriate to a high level of safety.	3	*Optional content: punctuality, rigour, adherence to rules, teamwork attitude*
BASIC HUMB 2.2.4	Describe the impact of responsibility on controllers action(s).	2	Responsibility as a guidance for appropriate action
BASIC HUMB 2.2.5	Recognise the different responsibilities of a controller.	1	Prospective and retrospective responsibility, guilt and obligation, types of responsibility (moral, welfare, legal, task, role responsibility, etc.)

Subtopic HUMB 2.3 — Health and well-being			
BASIC HUMB 2.3.1	Consider the effect of health on performance.	2	*Optional content: fitness, diet, drugs, alcohol*
Subtopic HUMB 2.4 — Teamwork			
BASIC HUMB 2.4.1	Describe the differences between social human relations and professional interactions.	2	
BASIC HUMB 2.4.2	Describe the different types and characters in a team.	2	*Optional content: leader, follower*
BASIC HUMB 2.4.3	Appreciate the principles of teamwork.	3	*Optional content: team membership, group dynamics, advantages/disadvantages of teamwork, conflicts and their solutions*
BASIC HUMB 2.4.4	Describe leader style and group interaction.	2	
Subtopic HUMB 2.5 — Basic needs of people at work			
BASIC HUMB 2.5.1	List basic needs of people at work.	1	*Optional content: balance between individual ability and workload, working time and rest periods; adequate physical working conditions, positive working environment*
BASIC HUMB 2.5.2	Characterise the factors of work satisfaction.	2	*Optional content: money, achievement, recognition, advancement, challenge*
Subtopic HUMB 2.6 — Stress			
BASIC HUMB 2.6.1	Define stress.	1	Stress definition *Optional content: EATCHIP Human Factors Module — Stress*
BASIC HUMB 2.6.2	Describe stress symptoms and sources.	2	Behavioural changes, lifestyle changes, physical symptoms, crisis events, main causes of stress *Optional content: EATCHIP Human Factors Module — Stress*
BASIC HUMB 2.6.3	Describe the stages of stress.	2	Stress performance curve *Optional content: EATCHIP Human Factors Module — Stress*
BASIC HUMB 2.6.4	Appreciate techniques for stress management.	3	*Optional content: relaxation techniques, diet and lifestyle, exercise, EATCHIP Human Factors Module — Stress*

TOPIC HUMB 3 — HUMAN ERROR

Subtopic HUMB 3.1 — Dangers of error

BASIC HUMB 3.1.1	Recognise the dangers of error in ATC.	1	*Optional content: Air Traffic Control — Human Performance Factors (Anne Isaac, 1999), Human Factors in Air Traffic Control (V. David Hopkin, 1995)*

Subtopic HUMB 3.2 — Definition of human error

BASIC HUMB 3.2.1	Define human error.	1	
BASIC HUMB 3.2.2	Describe the factors which contribute to cause error.	2	Fatigue, lack of skill, misunderstanding, multitasking, lack of information, distraction, lack of work satisfaction

Subtopic HUMB 3.3 — Classification of human error

BASIC HUMB 3.3.1	State the types of errors.	1	*Optional content: slips, lapses, mistakes*
BASIC HUMB 3.3.2	Define violations.	1	
BASIC HUMB 3.3.3	Differentiate between errors and violations of rules.	2	
BASIC HUMB 3.3.4	Describe the three levels of performance according to the Rasmussen model.	2	Skill-based, knowledge-based, rule-based

Subtopic HUMB 3.4 — Risk analysis and risk management

BASIC HUMB 3.4.1	Describe risk analysis and risk management of human systems and error.	2	Active failures and latent conditions *Optional content: Reason model, HFACS (Human Factors Analysis & Classification System) model, Heinrich Theory*
BASIC HUMB 3.4.2	Apply one risk analysis model on error during a case study.	3	

TOPIC HUMB 4 — COMMUNICATION

Subtopic HUMB 4.1 — Importance of good communications in ATC

BASIC HUMB 4.1.1	Appreciate the importance of good communications in ATC.	3	

Subtopic HUMB 4.2 — Communication process

BASIC HUMB 4.2.1	Define communication.	1	
BASIC HUMB 4.2.2	Define the communication process.	1	*Optional content: sender, encoder, transmitter, signal, interference, reception, decoder, receiver, feedback*

Subtopic HUMB 4.3 — Communication modes

BASIC HUMB 4.3.1	Describe the factors which affect verbal communication.	2	*Optional content: word choice, intonation, speed, tone, distortion, load, expectation, noise, interruption, language knowledge (i.e. accent, dialect, vocabulary)*
BASIC HUMB 4.3.2	Describe the factors which affect non-verbal communication.	2	*Optional content: touch, choice, expectation, noise, interruption*
BASIC HUMB 4.3.3	Apply good communication practices.	3	Speaking and listening

TOPIC HUMB 5 — THE WORK ENVIRONMENT

Subtopic HUMB 5.1 — Ergonomics and the need for good design

BASIC HUMB 5.1.1	Define ergonomics.	1	
BASIC HUMB 5.1.2	Recognise the need for good building design.	1	*Optional content: light, insulation, decor, space, facilities*
BASIC HUMB 5.1.3	Explain the need for good work position design.	2	*Optional content: anthropometry (seating, work station design, input device, etc.)*

Subtopic HUMB 5.2 — Equipment and tools

BASIC HUMB 5.2.1	Characterise the equipment and tools that will be used in simulation in accordance with the SHELL model.	2	The physical environment, visual displays, suites, input devices, communications equipment, console profile and layout

Subtopic HUMB 5.3 — Automation		
BASIC HUMB 5.3.1	Explain the reasons for automation.	2
BASIC HUMB 5.3.2	Describe the advantages and constraints of automation.	2

SUBJECT 8: EQUIPMENT AND SYSTEMS

The subject objective is:

Learners shall explain the basic working principles of equipment that is in general use in ATC and appreciate how this equipment aids the controller in providing safe and efficient ATS.

TOPIC EQPSB 1 — ATC EQUIPMENT

Subtopic EQPSB 1.1 — Main types of ATC equipment

BASIC EQPSB 1.1.1	Explain the relevance of ATC equipment.	2	CWP, Communication equipment, ATS surveillance systems

TOPIC EQPSB 2 — RADIO

Subtopic EQPSB 2.1 — Radio theory

BASIC EQPSB 2.1.1	State the principles of radio waves.	1	
BASIC EQPSB 2.1.2	Describe the characteristics of radio waves.	2	Propagation, limitations
BASIC EQPSB 2.1.3	State the use, characteristics and limitations of frequency bands.	1	Use in ATC, navigation and communications, use and application in the Aeronautical Mobile Service, HF, VHF, UHF
BASIC EQPSB 2.1.4	State the different uses of radio wave spectrum.	1	

Subtopic EQPSB 2.2 — Direction finding

BASIC EQPSB 2.2.1	State the principles and use of VDF/UDF.	1	VDF/UDF, QDM, QDR, QTF
BASIC EQPSB 2.2.2	State the precision of VDF/UDF used in the State system.	1	

TOPIC EQPSB 3 — COMMUNICATION EQUIPMENT

Subtopic EQPSB 3.1 — Radio communications

BASIC EQPSB 3.1.1	State the use of the radio in ATC.	1	
BASIC EQPSB 3.1.2	Describe the working principles of a transmitting and receiving system.	2	
BASIC EQPSB 3.1.3	Explain the effect of antenna shadowing on RTF communications.	2	

Subtopic EQPSB 3.2 — Voice communication between ATS units/positions

BASIC EQPSB 3.2.1	Describe the use of other voice communications in ATC.	2	*Optional content: telephone, interphone, intercom*

Subtopic EQPSB 3.3 — Data link communications

BASIC EQPSB 3.3.1	Explain the use and benefits of Controller Pilot Data Link Communications (CPDLC).	2	

Subtopic EQPSB 3.4 — Airline communications

BASIC EQPSB 3.4.1	State the use of SELCAL.	1	
BASIC EQPSB 3.4.2	Explain the use and benefits of Aircraft Communications Addressing and Reporting System (ACARS).	2	

TOPIC EQPSB 4 — INTRODUCTION TO SURVEILLANCE

Subtopic EQPSB 4.1 — Surveillance concept in ATS

BASIC EQPSB 4.1.1	Describe the concept of surveillance for the provision of ATS.	2	

TOPIC EQPSB 5 — RADAR

Subtopic EQPSB 5.1 — Principles of radar			
BASIC EQPSB 5.1.1	State the principles of radar.	1	
BASIC EQPSB 5.1.2	Recognise the characteristics of radar wavelengths.	1	
BASIC EQPSB 5.1.3	Recognise the use, characteristics and limitations of different radar types.	1	*Optional content: frequency bands, long and short-range radar, weather radar, high-resolution radar*
Subtopic EQPSB 5.2 — Primary radar			
BASIC EQPSB 5.2.1	Explain the working principles of PSR.	2	
Subtopic EQPSB 5.3 — Secondary radar			
BASIC EQPSB 5.3.1	Explain the working principles of SSR.	2	Mode A, Mode C
BASIC EQPSB 5.3.2	Explain SSR code management	2	Discrete, non-discrete codes, special codes
BASIC EQPSB 5.3.3	Explain the effect of antenna shadowing on SSR operation.	2	
Subtopic EQPSB 5.4 — Use of radars			
BASIC EQPSB 5.4.1	Explain the use of PSR/SSR in ATC.	2	Area, approach, aerodrome, surface movement radar, DFTI
BASIC EQPSB 5.4.2	Explain the advantages and disadvantages of PSR/SSR.	2	
Subtopic EQPSB 5.5 — Mode S			
BASIC EQPSB 5.5.1	Explain the principles of Mode S.	2	
BASIC EQPSB 5.5.2	Explain the use of Mode S in ATC systems.	2	

TOPIC EQPSB 6 — AUTOMATIC DEPENDENT SURVEILLANCE

Subtopic EQPSB 6.1 — Principles of automatic dependent surveillance			
BASIC EQPSB 6.1.1	State the different applications of ADS.	1	ADS-B, ADS-C
BASIC EQPSB 6.1.2	Explain the working principles of ADS.	2	
Subtopic EQPSB 6.2 — Use of automatic dependent surveillance			
BASIC EQPSB 6.2.1	Describe the use of ADS in ATC.	2	Area, approach, aerodrome, ICAO Doc 4444
BASIC EQPSB 6.2.2	Explain the limitations of ADS.	2	Dependency on GNSS, dependency on airborne equipment

TOPIC EQPSB 7 — MULTILATERATION

Subtopic EQPSB 7.1 — Principles of multilateration			
BASIC EQPSB 7.1.1	State the different applications of MLAT.	1	*Optional content: ATC, environmental management, airport operations, LAM, WAM*
BASIC EQPSB 7.1.2	Explain the working principles of MLAT.	2	*Optional content: passive and active MLAT*
Subtopic EQPSB 7.2 — Use of multilateration			
BASIC EQPSB 7.2.1	Describe the use of MLAT in ATC.	2	Area, approach, aerodrome
BASIC EQPSB 7.2.2	Explain the limitations of MLAT.	2	Dependency on airborne equipment

TOPIC EQPSB 8 — SURVEILLANCE DATA PROCESSING

Subtopic EQPSB 8.1 — Surveillance data networking			
BASIC EQPSB 8.1.1	Explain the advantages and disadvantages of different surveillance technologies.	2	Data quality, coverage, refresh rate, reliability, redundancy, cost-effectiveness
BASIC EQPSB 8.1.2	Describe the implementation of Surveillance Data Networks.	2	*Optional content: different technologies/sensors, network*

Subtopic EQPSB 8.2 — Working principles of surveillance data networking			
BASIC EQPSB 8.2.1	Explain the working principles of surveillance data processing.	2	Track fusion process, surveillance information presented on CWP
BASIC EQPSB 8.2.2	State other use of processed surveillance data.	1	*Optional content: safety nets, airport operations, environmental management*

TOPIC EQPSB 9 — FUTURE EQUIPMENT

Subtopic EQPSB 9.1 — New developments			
BASIC EQPSB 9.1.1	State the developments in the equipment field for introduction in the near future.	1	

TOPIC EQPSB 10 — AUTOMATION IN ATS

Subtopic EQPSB 10.1 — Principles of automation			
BASIC EQPSB 10.1.1	Describe the principles of automation in communication and data links in ATS.	2	
Subtopic EQPSB 10.2 — Aeronautical fixed telecommunication network (AFTN)			
BASIC EQPSB 10.2.1	Describe the principles of AFTN.	2	
Subtopic EQPSB 10.3 — On-line data interchange			
BASIC EQPSB 10.3.1	Describe the benefits of automatic exchange of ATS data in coordination and transfer processes.	2	Accuracy, speed and safety, non-verbal communications
BASIC EQPSB 10.3.2	Describe the limitations of automatic exchange of ATS data in coordination.	2	Non-recognition of a system's failure
Subtopic EQPSB 10.4 — Systems used for the automatic dissemination of information			
BASIC EQPSB 10.4.1	State the working principles of broadcasting systems.	1	*Optional content: ATIS, VOLMET*
BASIC EQPSB 10.4.2	Explain the use of ATIS and VOLMET in ATS.	2	

TOPIC EQPSB 11 — WORKING POSITIONS

Subtopic EQPSB 11.1 — Working position equipment			

BASIC EQPSB 11.1.1	Recognise equipment in a working position.	1	*Optional content: FPB, radio, telephone and other communication equipment, relevant maps and charts, strip printer, teleprinter, clock, information monitors, situation displays*
Subtopic EQPSB 11.2 — Aerodrome control			
BASIC EQPSB 11.2.1	Recognise equipment to be found specifically in a TWR.	1	*Optional content: wind indicator, aerodrome traffic monitor, SMR, crash alarm, signalling lamp, lighting control panel, runway-in-use indicator, binoculars, signalling/flare gun, IRVR and altimeter-setting indicators, local information systems*
Subtopic EQPSB 11.3 — Approach control			
BASIC EQPSB 11.3.1	Recognise equipment to be found specifically in an APP.	1	*Optional content: sequencing system, PAR, RVR indicators*
Subtopic EQPSB 11.4 — Area control			
BASIC EQPSB 11.4.1	Recognise equipment to be found specifically in an ACC.	1	

SUBJECT 9: PROFESSIONAL ENVIRONMENT

The subject objective is:

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

TOPIC PENB 1 — FAMILIARISATION

Subtopic PENB 1.1 — ATS and aerodrome facilities

BASIC PENB 1.1.1	Recognise civil and military ATS facilities.	1	*Optional content: TWR, APP, ACC, AIS, RCC, Air Defence Unit*
BASIC PENB 1.1.2	Recognise airport facilities and local operators.	1	*Optional content: firefighting and emergency services, airline operations*

TOPIC PENB 2 — AIRSPACE USERS

Subtopic PENB 2.1 — Civil aviation

BASIC PENB 2.1.1	Describe airspace usage by civil aircraft.	2	*Optional content: commercial flying, recreational flying, gliders, balloons, calibration flights, aerial photography, parachute dropping, UASs*

Subtopic PENB 2.2 — Military

BASIC PENB 2.2.1	Describe airspace usage by the military.	2	Airspace reservations, training, interception, in-flight refuelling, UASs *Optional content: low-level flying, test flights, special military operations*

Subtopic PENB 2.3 — Expectations and requirements of pilots

BASIC PENB 2.3.1	Recognise the expectations and requirements of pilots.	1	
BASIC PENB 2.3.2	State the use of Standard Operating Procedures (SOPs) by aircraft operators.	1	

TOPIC PENB 3 — CUSTOMER RELATIONS

Subtopic PENB 3.1 — Customer relations

BASIC PENB 3.1.1	State the role of ATC as a service provider.	1	
BASIC PENB 3.1.2	Recognise the means by which ATC is funded.	1	

TOPIC PENB 4 — ENVIRONMENTAL PROTECTION

Subtopic PENB 4.1 — Environmental protection

BASIC PENB 4.1.1	Describe the impact aviation has on the environment.	2	Noise, air quality, climate change, third-party risks
BASIC PENB 4.1.2	Explain the role of ATC in the concept of sustainable development.	2	*Optional content: ICAO Annex 16*
BASIC PENB 4.1.3	State how to measure, monitor and mitigate the impact aviation has on the environment.	1	*Optional content: EU ETS, SES initiative, EUROCONTROL role, continuous descent operations (CDOs), collaborative environmental management (CEM)*

AMC1 ATCO.D.010(a)(2)(i) Composition of initial training - content

AERODROME CONTROL VISUAL RATING (ADV) TRAINING - SUBJECT OBJECTIVES AND TRAINING OBJECTIVES

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AMC1 ATCO.D.010(a)(2)(i) Composition of initial training

AERODROME CONTROL VISUAL RATING (ADV) TRAINING — SUBJECT OBJECTIVES AND TRAINING OBJECTIVES

(a) The general principles that apply to this AMC are contained in AMC1 ATCO.D.010(a).

(b) ATCO rating training Aerodrome Control Visual Rating (ADV) should contain the following subject objectives and training objectives that are associated with the subjects, topics and subtopics contained in Appendix 3 to Annex I to Commission Regulation (EU) 2015/340 — Aerodrome Control Visual Rating (ADV).

(c) Subjects, topics and subtopics from Appendix 3 to Annex I to Commission Regulation (EU) 2015/340 are repeated in this AMC for the convenience of the reader and do not form part of it.

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

ADV INTR 1.1.1	Explain the aims and main objectives of the course.	2		ALL

Subtopic INTR 1.2 - Course administration

ADV INTR 1.2.1	State course administration.	1		ALL

Subtopic INTR 1.3 - Study material and training documentation

ADV 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
ADV 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

ADV 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
ADV INTR 2.1.2	State the subjects of the course and their purpose.	1		ALL
ADV INTR 2.1.3	Describe the organisation of theoretical training.	2	*Optional content: course programme*	ALL
ADV 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				
ADV 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				
ADV 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

ADV LAW 1.1.1	Appreciate the conditions which shall be met to issue an Aerodrome Control Visual rating.	3	Regulation (EU) 2015/340[19] on ATCO Licensing *Optional content: National documents*	ADV
ADV LAW 1.1.2	Explain how to maintain and update professional knowledge and skills to retain competence in the operational environment.	2		ALL
ADV LAW 1.1.3	Explain the conditions for suspension/revocation of ATCO licence.	2	Regulation (EU) 2015/340 on ATCO Licensing	ALL

TOPIC LAW 2 - RULES AND REGULATIONS

Subtopic LAW 2.1 - Reports

ADV 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
ADV 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

[19] Commission Regulation (EU) 2015/340 of 20 February 2015 laying down technical requirements and administrative procedures relating to air traffic controllers' licences and certificates pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council, amending Commission Implementing Regulation (EU) No 923/2012 and repealing Commission Regulation (EU) No 805/2011 (OJ L 63, 6.3.2015, p. 1).

ADV LAW 2.1.3	Use forms for reporting.	3	Regulation (EU) No 376/2014[20], air traffic incident reporting form(s) *Optional content: routine air reports, breach of regulations, watch/log book, records*	ALL

Subtopic LAW 2.2 - Airspace

ADV LAW 2.2.1	Appreciate classes and structure of airspace and their relevance to Aerodrome Control Visual rating operations.	3		ADV
ADV 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[21], ICAO Annex 2, ICAO Annex 11, international requirements, civil requirements, military requirements, areas of responsibility, sectorization, national requirements*	ALL
ADV LAW 2.2.3	Appreciate responsibility for terrain clearance.	3		ALL

TOPIC LAW 3 - ATC SAFETY MANAGEMENT

Subtopic LAW 3.1 - Feedback process

ADV LAW 3.1.1	State the importance of controller contribution to the feedback process.	1	*Optional content: voluntary reporting*	ALL
ADV LAW 3.1.2	Describe how reported occurrences are analysed.	2	*Optional content: ESARR 2, local procedures*	ALL
ADV LAW 3.1.3	Name the means used to disseminate recommendations.	1	*Optional content: safety letters, safety boards web pages*	ALL

[20] Regulation (EU) No 376/2014 of the European Parliament and of the Council of 3 April 2014 on the reporting, analysis and follow-up of occurrences in civil aviation, amending Regulation (EU) No 996/2010 of the European Parliament and of the Council and repealing Directive 2003/42/EC of the European Parliament and of the Council and Commission Regulations (EC) No 1321/2007 and (EC) No 1330/2007 (OJ L 122, 24.4.2014, p. 18).

[21] Commission Implementing Regulation (EU) No 923/2012 of 26 September 2012 laying down the common rules of the air and operational provisions regarding services and procedures in air navigation and amending Implementing Regulation (EU) No 1035/2011 and Regulations (EC) No 1265/2007, (EC) No 1794/2006, (EC) No 730/2006, (EC) No 1033/2006 and (EU) No 255/2010 (OJ L 281, 13.10.2012, p. 1).

ADV 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				
ADV LAW 3.2.1	Describe role and mission of Safety Investigation in the improvement of safety.	2		ALL
ADV 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

ADV ATM 1.1.1	Appreciate areas of responsibility.	3	Control zone, traffic circuit, manoeuvring area, movement area, vicinity *Optional content: ATZ*	ADV ADI
ADV 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	ADV ADI

Subtopic ATM 1.2 - Flight information service (FIS)

ADV ATM 1.2.1	Describe the information that shall be passed to aircraft by an aerodrome controller.	2	ICAO Doc 4444	ADV ADI
ADV ATM 1.2.2	Provide FIS.	4	ICAO Doc 4444 *Optional content: national documents*	*ALL*
ADV ATM 1.2.3	Issue appropriate information.	3	ICAO Doc 4444, essential local traffic, traffic information	ADV ADI
ADV 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)

ADV ATM 1.3.1	Provide ALRS.	4	ICAO Doc 4444 *Optional content: national documents*	ALL
ADV ATM 1.3.2	Respond to distress and urgency messages and signals.	3	Regulation (EU) No 923/2012, 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				
ADV 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
ADV ATM 1.4.2	Organise traffic to take account of flow management.	4	*Optional content: departure sequence*	ADV ADI
ADV 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				
ADV 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
ADV 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				
ADV ATM 3.1.1	Issue appropriate ATC clearances.	3	ICAO Doc 4444 *Optional content: national documents*	ALL
ADV ATM 3.1.2	Integrate appropriate ATC clearances in control service.	4		ALL
ADV ATM 3.1.3	Ensure the agreed course of action is carried out.	4		ALL

Subtopic ATM 3.2 - ATC instructions				
ADV ATM 3.2.1	Issue appropriate ATC instructions.	3	ICAO Doc 4444 *Optional content: national documents*	ALL
ADV ATM 3.2.2	Integrate appropriate ATC instructions in control service.	4		ALL
ADV 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				
ADV ATM 4.1.1	Identify the need for coordination.	3		ALL
Subtopic ATM 4.2 - Tools and methods for coordination				
ADV 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				
ADV 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
ADV 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
ADV ATM 4.3.3	Select, after negotiation, an appropriate course of action.	5		ALL
ADV ATM 4.3.4	Ensure the agreed course of action is carried out.	4		ALL
ADV ATM 4.3.5	Coordinate in the provision of FIS.	4	ICAO Doc 4444	ALL
ADV 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				
ADV ATM 5.1.1	Allocate levels according to altimetry data.	4	ICAO Doc 8168, ICAO Doc 4444	ALL
ADV 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

TOPIC ATM 6 - SEPARATIONS

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

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

Subtopic ATM 7.1 - Airborne collision avoidance systems

ADV ATM 7.1.1	Differentiate between ACAS advisory thresholds and aerodrome separation standards.	2	ICAO Doc 9863	ADV ADI
ADV ATM 7.1.2	Describe the controller responsibility during and following an ACAS RA reported by pilot.	2	ICAO Doc 4444	ALL
ADV 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

ADV 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

ADV 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
ADV ATM 8.1.2	Analyse pertinent data on data displays.	4		ALL
ADV ATM 8.1.3	Organise pertinent data on data displays.	4		ALL
ADV ATM 8.1.4	Obtain flight plan information.	3	CPL, FPL, supplementary information *Optional content: RPL, AFIL, etc.*	ALL
ADV 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

ADV ATM 9.1.1	Obtain information concerning the operational environment.	3	*Optional content: briefing, notices, local orders, verification of information*	ALL
ADV 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

ADV 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

ADV ATM 9.3.1	Transfer information to the relieving controller.	3		ALL
ADV 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

ADV ATM 10.1.1	Explain the responsibility for the provision of an aerodrome control service.	2	ICAO Doc 4444, ICAO Annex 11	ADV ADI
ADV ATM 10.1.2	Describe the division of responsibility between air traffic control units.	2	ICAO Doc 4444	*ALL*
ADV ATM 10.1.3	Describe the responsibility in regard to military traffic.	2	ICAO Doc 4444 *Optional content: ICAO Doc 9554*	*ALL*
ADV ATM 10.1.4	Describe the responsibility in regard to unmanned free balloons.	2	ICAO Doc 4444	ADV ADI
ADV 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				
ADV ATM 10.2.1	Manage the general functions of aerodrome control.	4	ICAO Doc 4444	ADV ADI
ADV ATM 10.2.2	Manage the suspension of VFR operations.	4	ICAO Doc 4444	ADV ADI
Subtopic ATM 10.3 - Traffic management process				
ADV ATM 10.3.1	Ensure that situational awareness is maintained.	4	Information gathering, observation, traffic projection	ADV ADI
ADV ATM 10.3.2	Detect conflicts in time for appropriate resolution.	4		ALL
ADV ATM 10.3.3	Identify potential solutions to achieve a safe and effective flow of aerodrome traffic.	3		ADV ADI
ADV ATM 10.3.4	Evaluate possible outcomes of different control actions.	5		ADV ADI
ADV ATM 10.3.5	Select an appropriate plan in time to achieve safe and effective flow of aerodrome traffic.	5		ADV ADI
ADV ATM 10.3.6	Ensure an adequate priority of actions.	4		*ALL*
ADV ATM 10.3.7	Execute plan in a timely manner.	3		ADV ADI
ADV 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				
ADV 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				
ADV ATM 10.5.1	Provide information related to the operation of aircraft.	4	ICAO Doc 4444	ADV ADI
ADV ATM 10.5.2	Provide information on aerodrome conditions.	4	ICAO Doc 4444	ADV ADI

Subtopic ATM 10.6 - Control of aerodrome traffic				
ADV ATM 10.6.1	Predict positions of aircraft in the aerodrome traffic and taxi circuits.	4	ICAO Doc 4444	ADV ADI
ADV ATM 10.6.2	Manage traffic on the manoeuvring area.	4	ICAO Doc 4444, aircraft, vehicles *Optional content: runway inspection*	ADV ADI
ADV ATM 10.6.3	Manage traffic in accordance with procedural changes.	4	*Optional content: taxiway closure*	ADV ADI
ADV 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				
ADV ATM 10.7.1	Manage traffic in the traffic circuit.	4	ICAO Doc 4444, meteorological phenomena, geographical knowledge, environmental factors	ADV ADI
ADV 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
ADV 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
ADV 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
ADV 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
ADV ATM 10.7.6	Integrate the information provided by situation displays.	4	Use, advantages, disadvantages	ADV ADI
ADV ATM 10.7.7	Initiate missed approach.	3	*Optional content: obstructed runway*	ADV ADI

Subtopic ATM 10.8 - Runway in use				
ADV ATM 10.8.1	Select the runway in use.	5	ICAO Doc 4444	ADV ADI
ADV ATM 10.8.2	Coordinate runway in use.	4	*Optional content: approach control, area control, runway selection, change of runway*	ADV ADI
ADV ATM 10.8.3	Manage traffic in the event of runway-in-use change.	4		ADV 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

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

ADV 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

ADV MET 2.2.1	Decode information from meteorological data displays.	3		ADV ADI
ADV MET 2.2.2	Use appropriate communication tools and networks to obtain meteorological data.	3		ADV ADI
ADV 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

ADV NAV 1.1.1	Decode symbols and information displayed on aeronautical maps and charts.	3	Visual approach/departure charts, aerodrome charts *Optional content: military maps and charts*	ADV
ADV NAV 1.1.2	Use relevant maps and charts.	3	Visual approach/departure charts, aerodrome charts *Optional content: Military maps and charts*	ADV

TOPIC NAV 2 - INSTRUMENT NAVIGATION

Subtopic NAV 2.1 - Navigational systems

ADV NAV 2.1.1	Describe the possible operational status of navigational systems.	2	*Optional content: NDB, VOR, DME*	ADV
ADV NAV 2.1.2	Decode operational status displays of navigational systems.	3	*Optional content: NDB, VOR, DME*	ADV
ADV 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*

Subtopic NAV 2.2 - Stabilised approach

ADV NAV 2.2.1	Describe the concept of stabilised approach.	2	ICAO Doc 8168 *Optional content: SKYbrary, Regulation (EC) No 1899/2006*[22]	ADV ADI APP APS
ADV NAV 2.2.2	Appreciate the effect of late change of runway-in-use for landing aircraft.	3		ADV ADI

[22] Regulation (EC) No 1899/2006 of the European Parliament and of the Council of 12 December 2006 amending Council Regulation (EEC) No 3922/91 on the harmonisation of technical requirements and administrative procedures in the field of civil aviation (OJ L 377, 27.12.2006, p. 1).

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

ADV ACFT 1.1.1	Integrate information from aircraft instruments provided by the pilot in the provision of ATS.	4		ALL
ADV ACFT 1.1.2	Explain the operation of aircraft radio equipment.	2	*Optional content: radios (number of), emergency radios*	ALL

TOPIC ACFT 2 - AIRCRAFT CATEGORIES

Subtopic ACFT 2.1 - Wake turbulence

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

TOPIC ACFT 3 - FACTORS AFFECTING AIRCRAFT PERFORMANCE

Subtopic ACFT 3.1 - Take-off factors

ADV 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

ADV 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

ADV 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,*	ADV ADI

			runway slope, aerodrome elevation	

Subtopic ACFT 3.4 - Economic factors

ADV 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

ADV 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

ADV 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	ADV

Subtopic ACFT 4.2 - Performance data

ADV 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

ADV HUM 1.1.1	Describe the human information processing model.	2	Attention, perception, memory, situational awareness, decision making, response	ALL
ADV 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
ADV 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

ADV HUM 2.1.1	State factors that cause fatigue.	1	Shift work *Optional content: night shifts and rosters*	ALL
ADV 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
ADV 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
ADV HUM 2.1.4	Recognise the onset of fatigue in others.	1		ALL
ADV HUM 2.1.5	Describe appropriate action when recognising fatigue.	2		ALL

Subtopic HUM 2.2 - Fitness				
ADV HUM 2.2.1	Recognise signs of lack of personal fitness.	1		ALL
ADV 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)				
ADV HUM 3.1.1	State the relevance of TRM.	1	*Optional content: TRM course, EUROCONTROL Guidelines for the development of TRM training*	ALL
ADV 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				
ADV HUM 3.2.1	Identify reasons for conflict.	3		ALL
ADV HUM 3.2.2	Describe actions to prevent human conflicts.	2	*Optional content: TRM team roles*	ALL
ADV 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				
ADV 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
ADV 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

ADV 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

ADV HUM 4.2.1	Act to reduce stress.	3	The effect of personality in coping with stress, the benefits of active stress management	ALL
ADV 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
ADV HUM 4.2.3	Recognise the effect of shocking and stressful events.	1	Self and others, abnormal situations, CISM	ALL
ADV HUM 4.2.4	Consider the benefits of Critical Incident Stress Management (CISM).	2		ALL
ADV 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

ADV 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
ADV 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
ADV HUM	Describe error-prone conditions.	2		ALL

5.1.3			*Optional content: increase in traffic, changes in procedures, complexities of systems or traffic, weather, unusual occurrences*	
ADV 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
ADV 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
ADV 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
ADV 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
ADV 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				
ADV 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				
ADV HUM 6.1.1	Use communication effectively in ATC.	3		ALL
ADV 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				
ADV 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
ADV 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
ADV HUM 6.2.3	List possible actions to provide a safe position handover.	1	*Optional content: rigour, preparation, overlap time*	ALL
ADV 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				
ADV 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				
ADV 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

ADV EQPS 1.1.1	Operate two-way communication equipment.	3	Transmit/receive switches, procedures *Optional content: frequency selection, standby equipment*	ALL
ADV 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

ADV 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)

ADV 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

ADV 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
ADV 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				
ADV EQPS 3.1.1	Monitor the technical integrity of the controller working position.	3	Notification procedures, responsibilities	ALL
ADV 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
ADV EQPS 3.1.3	Operate available equipment in abnormal and emergency situations.	3		ALL
Subtopic EQPS 3.2 - Situation displays and information systems				
ADV EQPS 3.2.1	Use situation displays.	3		ALL
ADV EQPS 3.2.2	Check availability of information material.	3		ALL
ADV EQPS 3.2.3	Obtain information from equipment.	3	*Optional content: information from wind direction indicator*	ADV ADI
Subtopic EQPS 3.3 - Flight data systems				
ADV 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				
ADV 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				
ADV EQPS 5.1.1	Take account of the limitations of equipment and systems.	2		ALL
ADV EQPS 5.1.2	Respond to technical deficiencies of the operational position.	3	Notification procedures, responsibilities	ALL
Subtopic EQPS 5.2 - Communication equipment degradation				
ADV EQPS 5.2.1	Identify that communication equipment has degraded.	3	*Optional content: ground-air, ground-ground and landline communications*	ADV ADI
ADV 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				
ADV EQPS 5.3.1	Identify when a navigational equipment failure will affect operational ability.	3	*Optional content: VOR, navigational aids*	ALL

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

ADV 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

ADV 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
ADV 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

ADV 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

ADV PEN 3.1.1	Identify the role of ATC as a service provider.	3		ALL
ADV PEN 3.1.2	Appreciate ATS users requirements.	3		ALL

TOPIC PEN 4 - ENVIRONMENTAL PROTECTION

Subtopic PEN 4.1 - Environmental protection

ADV 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
ADV PEN 4.1.2	Explain the use of Collaborative Environmental Management (CEM) process at airports.	2		ADV ADI APP APS
ADV 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

ADV 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
ADV ABES 1.1.2	Identify potential or actual abnormal and emergency situations.	3		ALL
ADV 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
ADV 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
ADV 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

ADV 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
ADV ABES 2.1.2	Apply change of radiotelephony call sign.	3	ICAO Doc 4444	ALL

Subtopic ABES 2.2 - Avoidance of mental overload				
ADV ABES 2.2.1	Describe actions to keep control of the situation.	2	*Optional content: sector splitting, holding, flow management, task delegation*	ALL
ADV ABES 2.2.2	Organise priority of actions.	4		ALL
ADV 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
ADV ABES 2.2.4	Consider asking for help.	2		ALL
Subtopic ABES 2.3 - Air / ground cooperation				
ADV ABES 2.3.1	Collect appropriate information relevant to the situation.	3		ALL
ADV 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				
ADV 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				
ADV 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
ADV 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				

ADV 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				
ADV 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
ADV ABES 3.4.2	Apply the procedures in the case of unidentified aircraft.	3	ICAO Doc 4444	ALL
ADV 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				
ADV 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

ADV AGA 1.1.1	Define aerodrome data.	1	Regulation (EU) No 139/2014[23] - EASA ED Decision 2014/013/R[24] 'CS-ADR-DSN - Initial issue', EASA ED Decision 2014/012/R[25] 'ADR AMC/GM – Initial issue' *Optional content: aerodrome elevation, reference point, apron, movement area, manoeuvring area, hot spot*	ADV ADI APP APS

Subtopic AGA 1.2 - Coordination

ADV 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 39/2014 - EASA ED Decision 2014/013/R 'CS-ADR-DSN - Initial issue', EASA ED Decision 2014/012/R 'ADR AMC/GM – Initial issue'	APP APS ADV ADI

TOPIC AGA 2 - MOVEMENT AREA

Subtopic AGA 2.1 - Movement area

ADV AGA 2.1.1	Describe movement area.	2	Regulation (EU) No 139/2014 - EASA ED Decision 2014/013/R 'CS-ADR-DSN - Initial issue', EASA ED Decision 2014/012/R 'ADR AMC/GM – Initial issue'	ADV ADI APP APS
ADV AGA 2.1.2	Describe the marking of obstacles and unusable or unserviceable areas.	2	Flags, signs on pavement, lights	ADV ADI APP APS

[23] Commission Regulation (EU) No 139/2014 of 12 February 2014 laying down requirements and administrative procedures related to aerodromes pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council (OJ L 44, 14.2.2014, p. 1).

[24] Decision 2014/013/R of the Executive Director of the Agency of 27 February 2014 adopting Certification Specifications and Guidance Material for Aerodromes Design 'CS-ADR-DSN - Initial issue'

[25] Decision 2014/012/R of the Executive Director of the Agency of 27 February 2014 adopting Acceptable Means of Compliance and Guidance Material to Regulation (EU) No 139/2014 'AMC/GM for Aerodromes – Initial Issue'

ADV 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				
ADV AGA 2.2.1	Describe manoeuvring area.	2	Regulation (EU) No 139/2014 - EASA ED Decision 2014/013/R 'CS-ADR-DSN - Initial issue', EASA ED Decision 2014/012/R 'ADR AMC/GM – Initial issue'	ADV ADI APP APS
ADV AGA 2.2.2	Describe taxiway.	2		ADV ADI APP APS
ADV AGA 2.2.3	Describe the daylight marking on taxiways.	2		ADV ADI APP APS
ADV AGA 2.2.4	Describe taxiway lighting.	2		ADV ADI APP APS
Subtopic AGA 2.3 - Runways				
ADV AGA 2.3.1	Describe runway.	2	Runway, runway surface, runway strip, shoulder, runway end safety areas, clearways, stopways	ADV ADI APP APS
ADV AGA 2.3.2	Describe non-instrument runway.	2	Regulation (EU) No 139/2014 - EASA ED Decision 2014/013/R 'CS-ADR-DSN - Initial issue', EASA ED Decision 2014/012/R 'ADR AMC/GM – Initial issue'	ADV *ADI* *APP* *APS*
ADV AGA 2.3.3	Explain declared distances.	2	TORA, TODA, ASDA, LDA	ADV *ADI* *APP* *APS*

ADV AGA 2.3.4	Explain the differences between ACN and PCN.	2	Strength of pavements	ADV *ADI* *APP* *APS*
ADV AGA 2.3.5	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*
ADV AGA 2.3.6	Describe runway lights.	2	*Optional content: colour, centre line, intensity, edge, touchdown zone, threshold, barettes*	ADV *ADI* *APP* *APS*
ADV AGA 2.3.7	Explain the functions of visual landing aids.	2	*Optional content: AVASI, VASI, PAPI*	ADV *ADI* *APP* *APS*
ADV AGA 2.3.8	Describe the approach lighting systems.	2	Centre line, cross bars, stroboscopic lights, colours, intensity and brightness	ADV *ADI* *APP* *APS*
ADV AGA 2.3.9	Characterise the effect of water/ice on runways.	2		ADV *ADI* *APP* *APS*
ADV AGA 2.3.10	Explain braking action.	2	Braking action coefficient	ADV *ADI* *APP* *APS*
ADV AGA 2.3.11	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

ADV 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

ADV 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

AMC1 ATCO.D.010(a)(2)(ii) Composition of initial training - content

AERODROME CONTROL INSTRUMENT RATING FOR TOWER ADI (TWR) TRAINING - SUBJECT OBJECTIVES AND TRAINING OBJECTIVES

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AMC1 ATCO.D.010(a)(2)(ii) Composition of initial training

AERODROME CONTROL INSTRUMENT RATING FOR TOWER ADI (TWR) TRAINING — SUBJECT OBJECTIVES AND TRAINING OBJECTIVES

(a) The general principles that apply to this AMC are contained in AMC1 ATCO.D.010(a).

(b) ATCO rating training Aerodrome Control Instrument Rating for Tower ADI (TWR) should contain the following subject objectives and training objectives that are associated with the subjects, topics and subtopics contained Appendix 4 to Annex I to Commission Regulation (EU) 2015/340 — Aerodrome Control Instrument Rating for Tower ADI (TWR).

(c) Subjects, topics and subtopics from Appendix 4 to Annex I to Commission Regulation (EU) 2015/340 are repeated in this AMC for the convenience of the reader and do not form part of it.

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[26] on ATCO Licensing *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 Licensing	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[27], air traffic incident reporting form(s) *Optional content: routine air reports, breach of regulations, watch/log book, records*	ALL

[26] Commission Regulation (EU) 2015/340 of 20 February 2015 laying down technical requirements and administrative procedures relating to air traffic controllers' licences and certificates pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council, amending Commission Implementing Regulation (EU) No 923/2012 and repealing Commission Regulation (EU) No 805/2011 (OJ L 63, 6.3.2015, p. 1).

[27] Regulation (EU) No 376/2014 of the European Parliament and of the Council of 3 April 2014 on the reporting, analysis and follow-up of occurrences in civil aviation, amending Regulation (EU) No 996/2010 of the European Parliament and of the Council and repealing Directive 2003/42/EC of the European Parliament and of the Council and Commission Regulations (EC) No 1321/2007 and (EC) No 1330/2007 (OJ L 122, 24.4.2014, p. 18).

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 23/2012[28], 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

[28] Commission Implementing Regulation (EU) No 923/2012 of 26 September 2012 laying down the common rules of the air and operational provisions regarding services and procedures in air navigation and amending Implementing Regulation (EU) No 1035/2011 and Regulations (EC) No 1265/2007, (EC) No 1794/2006, (EC) No 730/2006, (EC) No 1033/2006 and (EU) No 255/2010 (OJ L 281, 13.10.2012, p. 1).

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	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 *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	Obtain flight plan information.	3	CPL, FPL, supplementary information	ALL

8.1.4			*Optional content: RPL, AFIL, etc.*	
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*[29]	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*

[29] Regulation (EC) No 1899/2006 of the European Parliament and of the Council of 12 December 2006 amending Council Regulation (EEC) No 3922/91 on the harmonisation of technical requirements and administrative procedures in the field of civil aviation (OJ L 377, 27.12.2006, p. 1).

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
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[30] - EASA ED Decision 2014/013/R[31] 'CS-ADR-DSN - Initial issue', EASA ED Decision 2014/012/R[32] 'ADR AMC/GM – Initial issue' *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 'CS-ADR-DSN - Initial issue', EASA ED Decision 2014/012/R 'ADR AMC/GM – Initial Issue'	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 'CS-ADR-DSN - Initial issue', EASA ED Decision 2014/012/R 'ADR AMC/GM – Initial Issue'	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	Identify the information on conditions of the movement area that have to be	3	Essential information on aerodrome conditions	ADV ADI

[30] Commission Regulation (EU) No 139/2014 of 12 February 2014 laying down requirements and administrative procedures related to aerodromes pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council (OJ L 44, 14.2.2014, p. 1).

[31] Decision 2014/013/R of the Executive Director of the Agency of 27 February 2014 adopting Certification Specifications and Guidance Material for Aerodromes Design 'CS-ADR-DSN - Initial issue'

[32] Decision 2014/012/R of the Executive Director of the Agency of 27 February 2014 adopting Acceptable Means of Compliance and Guidance Material to Regulation (EU) No 139/2014 'AMC/GM for Aerodromes – Initial Issue'

2.1.3	passed to aircraft.			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 'CS-ADR-DSN - Initial issue', EASA ED Decision 2014/012/R 'ADR AMC/GM – Initial issue'	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'CS-ADR-DSN - Initial issue', EASA ED Decision 2014/012/R 'ADR AMC/GM – Initial issue'	ADI APP APS
ADI AGA 2.3.3	Describe non-instrument runway.	2	Regulation (EU) No 139/2014 - EASA ED Decision 2014/013/R 'CS-ADR-DSN - Initial issue', EASA ED Decision 2014/012/R 'ADR AMC/GM – Initial issue'	*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
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

AMC1 ATCO.D.010(a)(2)(iii) Composition of initial training - content

APPROACH CONTROL PROCEDURAL RATING (APP) TRAINING - SUBJECT OBJECTIVES AND TRAINING OBJECTIVES

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AMC1 ATCO.D.010(a)(2)(iii) Composition of initial training

APPROACH CONTROL PROCEDURAL RATING (APP) TRAINING — SUBJECT OBJECTIVES AND TRAINING OBJECTIVES

(a) The general principles that apply to this AMC are contained in AMC1 ATCO.D.010(a).

(b) ATCO rating training Approach Control Procedural Rating (APP) should contain the following subject objectives and training objectives that are associated with the subjects, topics and subtopics contained in Appendix 5 to Annex I to Commission Regulation (EU) 2015/340 — Approach Control Procedural Rating (APP).

(c) Subjects, topics and subtopics from Appendix 5 to Annex I to Commission Regulation (EU) 2015/340 are repeated in this AMC for the convenience of the reader and do not form part of it.

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

APP INTR 1.1.1	Explain the aims and main objectives of the course.	2		ALL

Subtopic INTR 1.2 - Course administration

APP INTR 1.2.1	State course administration.	1		ALL

Subtopic INTR 1.3 - Study material and training documentation

APP 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
APP 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

APP 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
APP INTR 2.1.2	State the subjects of the course and their purpose.	1		ALL
APP INTR 2.1.3	Describe the organisation of theoretical training.	2	*Optional content: course programme*	ALL
APP 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

APP 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

APP 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

APP LAW 1.1.1	Appreciate the conditions which shall be met to issue an Approach Control Procedural rating	3	Regulation (EU) 2015/340[33] on ATCO Licensing *Optional content: National documents*	APP
APP LAW 1.1.2	Explain how to maintain and update professional knowledge and skills to retain competence in the operational environment.	2		ALL
APP LAW 1.1.3	Explain the conditions for suspension/revocation of ATCO licence.	2	Regulation (EU) 2015/340 on ATCO Licensing	ALL

TOPIC LAW 2 - RULES AND REGULATIONS

Subtopic LAW 2.1 - Reports

APP 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
APP 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

[33] Commission Regulation (EU) 2015/340 of 20 February 2015 laying down technical requirements and administrative procedures relating to air traffic controllers' licences and certificates pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council, amending Commission Implementing Regulation (EU) No 923/2012 and repealing Commission Regulation (EU) No 805/2011 (OJ L 63, 6.3.2015, p. 1).

APP LAW 2.1.3	Use forms for reporting.	3	Regulation (EU) No 376/2014[34], air traffic incident reporting form(s) *Optional content: routine air reports, breach of regulations, watch/log book, records*	ALL
Subtopic LAW 2.2 - Airspace				
APP LAW 2.2.1	Appreciate classes and structure of airspace and their relevance to Approach Control Procedural rating operations.	3		APP
APP 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[35], ICAO Annex 2, ICAO Annex 11, international requirements, civil requirements, military requirements, areas of responsibility, sectorization, national requirements*	ALL
APP LAW 2.2.3	Appreciate responsibility for terrain clearance.	3		ALL
TOPIC LAW 3 - ATC SAFETY MANAGEMENT				
Subtopic LAW 3.1 - Feedback process				
APP LAW 3.1.1	State the importance of controller contribution to the feedback process.	1	*Optional content: voluntary reporting*	ALL
APP LAW 3.1.2	Describe how reported occurrences are analysed.	2	*Optional content: ESARR 2, local procedures*	ALL
APP LAW 3.1.3	Name the means used to disseminate recommendations.	1	*Optional content: safety letters, safety boards web pages*	ALL

[34] Regulation (EU) No 376/2014 of the European Parliament and of the Council of 3 April 2014 on the reporting, analysis and follow-up of occurrences in civil aviation, amending Regulation (EU) No 996/2010 of the European Parliament and of the Council and repealing Directive 2003/42/EC of the European Parliament and of the Council and Commission Regulations (EC) No 1321/2007 and (EC) No 1330/2007 (OJ L 122, 24.4.2014, p. 18).

[35] Commission Implementing Regulation (EU) No 923/2012 of 26 September 2012 laying down the common rules of the air and operational provisions regarding services and procedures in air navigation and amending Implementing Regulation (EU) No 1035/2011 and Regulations (EC) No 1265/2007, (EC) No 1794/2006, (EC) No 730/2006, (EC) No 1033/2006 and (EU) No 255/2010 (OJ L 281, 13.10.2012, p. 1).

APP 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				
APP LAW 3.2.1	Describe role and mission of Safety Investigation in the improvement of safety.	2		ALL
APP 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 - Air traffic control (ATC) service

APP ATM 1.1.1	Appreciate own area of responsibility.	3		APP ACP APS ACS
APP ATM 1.1.2	Provide approach control service.	4	Regulation (EU) No 923/2012, ICAO Annex 11, ICAO Doc 7030, ICAO Doc 4444, operation manuals	APP APS

Subtopic ATM 1.2 - Flight information service (FIS)

APP ATM 1.2.1	Provide FIS.	4	ICAO Doc 4444 *Optional content: national documents*	*ALL*
APP ATM 1.2.2	Issue appropriate information concerning the location of conflicting traffic.	3	ICAO Doc 4444, traffic information, essential traffic information	APP ACP *APS* *ACS*
APP ATM 1.2.3	Appreciate the use of ATIS for the provision of flight information service by approach controller.	3		APP APS

Subtopic ATM 1.3 - Alerting service (ALRS)

APP ATM 1.3.1	Provide ALRS.	4	ICAO Doc 4444 *Optional content: national documents*	ALL
APP ATM 1.3.2	Respond to distress and urgency messages and signals.	3	Regulation (EU) No 923/2012, 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				
APP ATM 1.4.1	Appreciate principles of ATS system capacity and air traffic flow management.	3	*Optional content: EUROCONTROL ATFCM Users Manual, FABs, FUA, free flight, etc.*	APP ACP APS ACS
APP ATM 1.4.2	Apply flow management procedures in the provision of ATC.	3	*Optional content: EUROCONTROL ATFCM Users Manual*	APP ACP APS ACS
APP ATM 1.4.3	Organise traffic flows and patterns to take account of airspace boundaries.	4	*Optional content: civil and military, controlled, uncontrolled, advisory, restricted, danger, prohibited, special rules, sector boundaries, national boundaries, FIR boundaries, delegated airspace, transfer of control, transfer of communications, en-route, off-route*	APP ACP APS ACS
APP ATM 1.4.4	Organise traffic flows and patterns to take account of areas of responsibility.	4	*Optional content: EUROCONTROL ATFCM Users Manual*	APP ACP APS ACS
APP ATM 1.4.5	Inform supervisor of situation.	3	*Optional content: abnormal situations, decrease in sector capacity, limitations on systems and equipment, changes in workload/capacity, unusual meteorological conditions, relevant information like: reported ground-based incidents, forest fire, smoke, oil pollution*	APP ACP APS ACS
Subtopic ATM 1.5 - Airspace management (ASM)				
APP ATM 1.5.1	Appreciate the principles and means of ASM.	3	Regulation (EC) No 551/2004[36], Regulation (EC) 2150/2005[37], Regulation (EC) No 730/2006[38] *Optional content: FABs, EUROCONTROL Specification for the application of FUA, TSAs, CDRs, CBAs*	APP ACP APS ACS

[36] Regulation (EC) No 551/2004 of the European Parliament and of the Council of 10 March 2004 on the organisation and use of the airspace in the single European sky (the airspace Regulation) - Commission statement (OJ L 96, 31.3.2004, p. 20).

[37] Commission Regulation (EC) No 2150/2005 of 23 December 2005 laying down common rules for the flexible use of airspace (OJ L 342, 24.12.2005, p. 20).

[38] Commission Regulation (EC) No 730/2006 of 11 May 2006 on airspace classification and access of flights operated under visual flight rules above flight level 195 (OJ L 128, 16.5.2006, p. 3).

APP ATM 1.5.2	Organise traffic to take account of ASM.	4	*Optional content: CDR, TSA, TRA, CBA, real-time activation, deactivation or reallocation of airspace*	APP *ACP*

TOPIC ATM 2 - COMMUNICATION

Subtopic ATM 2.1 - Effective communication

APP 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
APP 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

APP ATM 3.1.1	Issue appropriate ATC clearances.	3	ICAO Doc 4444 *Optional content: national documents*	ALL
APP ATM 3.1.2	Integrate appropriate ATC clearances in control service.	4		ALL
APP ATM 3.1.3	Ensure the agreed course of action is carried out.	4		ALL

Subtopic ATM 3.2 - ATC instructions

APP ATM 3.2.1	Issue appropriate ATC instructions.	3	ICAO Doc 4444 *Optional content: national documents*	ALL
APP ATM 3.2.2	Integrate appropriate ATC instructions in control service.	4		ALL
APP 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

APP ATM 4.1.1	Identify the need for coordination.	3		ALL

Subtopic ATM 4.2 - Tools and methods for coordination				
APP 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				
APP 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
APP 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
APP ATM 4.3.3	Select, after negotiation, an appropriate course of action.	5		ALL
APP ATM 4.3.4	Ensure the agreed course of action is carried out.	4		ALL
APP ATM 4.3.5	Coordinate in the provision of FIS.	4	ICAO Doc 4444	ALL
APP 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

APP ATM 5.1.1	Allocate levels according to altimetry data.	4	ICAO Doc 8168, ICAO Doc 4444	ALL
APP 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

APP ATM 5.2.1	Provide planning, coordination and control actions appropriate to the rules for minimum safe levels and terrain clearance.	4	*Optional content: terrain clearance dimensions, minimum safe altitudes, transition level, minimum flight level, minimum sector altitude*	APP ACP

TOPIC ATM 6 - SEPARATIONS

Subtopic ATM 6.1 - Vertical separation

APP ATM 6.1.1	Provide standard vertical separation.	4	ICAO Doc 4444, ICAO Doc 7030, level allocation, during climb/descent, rate of climb/descent, holding pattern	APP APS
APP ATM 6.1.2	Provide increased vertical separation.	4	ICAO Doc 4444, ICAO Doc 7030 *Optional content: level allocation, during climb/descent, rate of climb/descent*	APP ACP APS ACS
APP ATM 6.1.3	Appreciate the application of vertical emergency separation.	3	ICAO Doc 4444, ICAO Doc 7030	APP ACP APS ACS

Subtopic ATM 6.2 - Horizontal separation

APP ATM 6.2.1	Provide longitudinal separation.	4	Based on time, based on distance (DME and/or GNSS, RNAV)	APP
APP ATM 6.2.2	Provide lateral separation.	4	ICAO Doc 4444, ICAO Doc 7030, holding	APP ACP

APP ATM 6.2.3	Provide track separation.	4		ACP APP
APP ATM 6.2.4	Provide geographical separation.	4	Visual, using navigation aids, area navigation	ACP APP

Subtopic ATM 6.3 - Delegation of separation

APP ATM 6.3.1	Delegate separation to pilots in the case of aircraft executing successive visual approaches.	4		APP APS
APP ATM 6.3.2	Appreciate the conditions which must be met when delegating separation to pilots to fly maintaining own separation while in VMC.	3	ICAO Doc 4444	APP APS

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

Subtopic ATM 7.1 - Airborne collision avoidance systems

APP ATM 7.1.1	Differentiate between ACAS advisory thresholds and separation standards applicable in the approach control environment.	2	ICAO Doc 9863 *Optional content: EUROCONTROL TCAS web page*	APP APS
APP ATM 7.1.2	Describe the controller responsibility during and following an ACAS RA reported by pilot.	2	ICAO Doc 4444	ALL
APP 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

TOPIC ATM 8 - DATA DISPLAY

Subtopic ATM 8.1 - Data management

APP 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
APP ATM 8.1.2	Analyse pertinent data on data displays.	4		ALL

APP ATM 8.1.3	Organise pertinent data on data displays.	4		ALL
APP ATM 8.1.4	Obtain flight plan information.	3	CPL, FPL, supplementary information *Optional content: RPL, AFIL, etc.*	ALL
APP 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

APP ATM 9.1.1	Obtain information concerning the operational environment.	3	*Optional content: briefing, notices, local orders, verification of information*	ALL
APP ATM 9.1.2	Ensure the integrity of the operational environment.	4	*Optional content: integrity of displays, verification of the information provided by displays, etc.*	APP ACP APS ACS

Subtopic ATM 9.2 - Verification of the currency of operational procedures

APP ATM 9.2.1	Check all relevant documentation before managing traffic.	3	*Optional content: briefing, LOAs, NOTAM, AICs*	ALL
APP ATM 9.2.2	Manage traffic in accordance with procedural changes.	4		APP ACP APS ACS

Subtopic ATM 9.3 - Handover-takeover

APP ATM 9.3.1	Transfer information to the relieving controller.	3		ALL
APP ATM 9.3.2	Obtain information from the controller handing over.	3		ALL

TOPIC ATM 10 - PROVISION OF CONTROL SERVICE

Subtopic ATM 10.1 - Responsibility and processing of information

APP ATM 10.1.1	Describe the division of responsibility between air traffic control units.	2	ICAO Doc 4444	*ALL*
APP ATM 10.1.2	Describe the responsibility in regard to military traffic.	2	ICAO Doc 4444 *Optional content: ICAO Doc 9554*	*ALL*
APP ATM 10.1.3	Describe the responsibility in regard to unmanned free balloons.	2	ICAO Doc 4444	APP ACP APS ACS
APP ATM 10.1.4	Obtain operational information.	3	ICAO Doc 4444, local operation manuals	APP ACP APS ACS
APP ATM 10.1.5	Interpret operational information.	5		APP ACP APS ACS
APP ATM 10.1.6	Organise forwarding of operational information.	4	*Optional content: including the use of backup procedures*	APP ACP APS ACS
APP ATM 10.1.7	Integrate operational information into control decisions.	4		APP ACP APS ACS
APP ATM 10.1.8	Appreciate the influence of operational requirements.	3	*Optional content: military flying, calibration flights, aerial photography*	*ALL*

Subtopic ATM 10.2 - Approach control

APP ATM 10.2.1	Explain the responsibility for the provision of an approach procedural control service.	2	ICAO Doc 4444, ICAO Annex 11, local operation manuals	APP
APP ATM 10.2.2	Provide planning, coordination and control actions appropriate to the VFR, SVFR and IFR in VMC and IMC.	4	Regulation (EU) No 923/2012, ICAO Annex 11, ICAO Doc 4444	APP *APS*

Subtopic ATM 10.3 - Traffic management process

APP ATM 10.3.1	Ensure that situational awareness is maintained.	4	Information gathering, traffic projection	APP ACP
APP ATM 10.3.2	Detect conflicts in time for appropriate resolution.	4		ALL
APP ATM 10.3.3	Identify potential solutions to achieve a safe and effective traffic flow.	3		APP ACP APS ACS
APP ATM 10.3.4	Evaluate possible outcomes of different planning and control actions.	5		APP ACP APS ACS
APP ATM 10.3.5	Select an appropriate plan in time to achieve safe and effective traffic flow.	5		APP ACP APS ACS
APP ATM 10.3.6	Ensure an adequate priority of actions.	4		ALL
APP ATM 10.3.7	Execute selected plan in a timely manner.	3		APP ACP APS ACS
APP ATM 10.3.8	Ensure a safe and efficient outcome is achieved.	4	Traffic monitoring, adaptability and follow up	ALL
Subtopic ATM 10.4 - Handling traffic				
APP ATM 10.4.1	Manage arrivals, departures and overflights.	4		APP ACP APS ACS
APP ATM 10.4.2	Balance the workload against personal capacity.	5	*Optional content: re-routing, re-planning, prioritising solutions, denying requests, delegating responsibility for separation*	APP ACP APS ACS
APP ATM 10.4.3	Manage traffic on different types of approaches.	4	Precision, non-precision, visual	APP *APS*
APP ATM	Initiate missed approach.	3	ICAO Doc 4444	APP

10.4.4				*APS*
APP ATM 10.4.5	Integrate aircraft on missed approach into the traffic situation.	4		APP *APS*

TOPIC ATM 11 - HOLDING

Subtopic ATM 11.1 - General holding procedures

APP ATM 11.1.1	Apply holding procedures.	3	ICAO Doc 4444, holding instructions, allocation of holding levels, onward clearance times	APP ACP APS ACS
APP ATM 11.1.2	Appreciate the factors affecting holding patterns.	3	Effect of speed, effect of level used, effect of navigation aid in use, turbulence, aircraft type	APP ACP APS ACS

Subtopic ATM 11.2 - Approaching aircraft

APP ATM 11.2.1	Calculate Expected Approach Times (EATs) and Expected Onward Clearance times.	3		APP APS
APP ATM 11.2.2	Organise the traffic landing sequence in a holding pattern.	4	*Optional content: company preference, aircraft performance, aircraft approach capability, ILS categories, flow control management*	APP APS

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

APP MET 1.1.1	Appreciate the impact of adverse weather.	3	Thunderstorms, icing, clear air turbulence (CAT), turbulence, microburst, wind shear, severe mountain waves, line squalls, volcanic ash	APP APS
APP MET 1.1.2	Integrate data about meteorological phenomena into provision of ATS.	4	Clearances, instructions and transmitted information *Optional content: relevant meteorological phenomena*	*ALL*
APP MET 1.1.3	Use techniques to avoid adverse weather when necessary/possible.	3	Re-routing, level change, etc.	APP ACP APS ACS

TOPIC MET 2 - SOURCES OF METEOROLOGICAL DATA

Subtopic MET 2.1 - Sources of meteorological information

APP MET 2.1.1	Obtain meteorological information	3	METAR, TAF, SIGMET, AIRMET *Optional content: AIREP/AIREP Special*	APP ACP APS ACS
APP MET 2.1.2	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

APP 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
APP NAV 1.1.2	Use relevant maps and charts.	3		APP *ACP* APS *ACS*

TOPIC NAV 2 - INSTRUMENT NAVIGATION

Subtopic NAV 2.1 - Navigational systems

APP NAV 2.1.1	Manage traffic in case of change in the operational status of navigational systems.	4	*Optional content: limitations, status of ground-based and satellite-based systems*	APP ACP APS ACS
APP NAV 2.1.2	Appreciate the effect of precision, limitations and change of the operational status of navigational systems.	3	*Optional content: limitations, status, degraded procedures*	*ALL*

Subtopic NAV 2.2 - Stabilised approach

APP NAV 2.2.1	Describe the concept of stabilised approach.	2	ICAO Doc 8168 *Optional content: SKYbrary, Regulation (EC) No 1899/2006*[39]	ADV ADI APP APS
APP NAV 2.2.2	Appreciate the effect of late change of runway-in-use or type of approach for landing aircraft.	3		APP APS
APP NAV 2.2.3	Appreciate controller actions that may contribute to unstabilised approach.	3	Delayed descent	APP

Subtopic NAV 2.3 - Instrument departures and arrivals

[39] Regulation (EC) No 1899/2006 of the European Parliament and of the Council of 12 December 2006 amending Council Regulation (EEC) No 3922/91 on the harmonisation of technical requirements and administrative procedures in the field of civil aviation (OJ L 377, 27.12.2006, p. 1).

APP NAV 2.3.1	Characterise SIDs.	2		ADI APP APS
APP NAV 2.3.2	Describe the types and phases of instrument approach procedures.	2		APP APS
APP 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 - Navigational assistance				
APP NAV 2.4.1	Evaluate the necessary information to be provided to pilots in need of navigational assistance.	5	*Optional content: nearest most suitable aerodrome, track, heading, distance, aerodrome information, any other navigational assistance relevant at the time*	APP ACP APS ACS
Subtopic NAV 2.5 - Satellite-based systems				
APP NAV 2.5.1	State the different applications of satellite-based systems relevant for approach operations.	1	*Optional content: NPA, APV-baro VNAV, APV, LPV, precision approach, ICAO Doc 8168 Vol.2*	APP APS
Subtopic NAV 2.6 - PBN applications				
APP NAV 2.6.1	State the navigation applications used in approach and terminal environments.	1	Approach-RNP APCH/ RNP AR APCH; Terminal-RNAV-1 (≈P-RNAV) *Optional content: A-RNP, EU PBN Implementing Rule, ICAO Doc 9613*	APP APS
APP NAV 2.6.2	Explain the principles and designation of navigation specifications in use.	2	*Optional content: performance, functionality, sensors, aircrew and controller requirements*	APP *ACP* APS *ACS*
APP NAV 2.6.3	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

APP ACFT 1.1.1	Integrate information from aircraft instruments provided by the pilot in the provision of ATS.	4		ALL
APP ACFT 1.1.2	Explain the operation of aircraft radio equipment.	2	*Optional content: radios (number of), emergency radios*	ALL

TOPIC ACFT 2 - AIRCRAFT CATEGORIES

Subtopic ACFT 2.1 - Wake turbulence

APP ACFT 2.1.1	Explain the wake turbulence effect and associated hazards to the succeeding aircraft.	2		ALL
APP 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

APP ACFT 2.2.1	Describe the use of ICAO approach categories.	2	ICAO Doc 8168	ADI APP APS
APP 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 - Climb factors

APP ACFT 3.1.1	Integrate the influence of factors affecting aircraft during climb.	4	*Optional content: speed, mass, air density, cabin pressurisation, wind and temperature*	APP ACP APS ACS
APP ACFT 3.1.2	Appreciate the influence of factors affecting aircraft on take-off.	3	*Optional content: runway conditions, runway slope, aerodrome elevation, wind, temperature, aircraft configuration, airframe contamination and aircraft mass*	APP APS

Subtopic ACFT 3.2 - Cruise factors

APP ACFT 3.2.1	Integrate the influence of factors affecting aircraft during cruise.	4	Level, cruising speed, wind, mass, cabin pressurisation	APP ACP APS ACS

Subtopic ACFT 3.3 - Descent and initial approach factors

APP ACFT 3.3.1	Integrate the influence of factors affecting aircraft during descent.	4	*Optional content: wind, speed, rate of descent, aircraft configuration, cabin pressurisation*	APP APS

Subtopic ACFT 3.4 - Final approach and landing factors

APP ACFT 3.4.1	Integrate the influence of factors affecting aircraft during final approach and landing.	4	*Optional content: wind, aircraft configuration, mass, meteorological conditions, runway conditions, runway slope, aerodrome elevation*	APP APS

Subtopic ACFT 3.5 - Economic factors

APP ACFT 3.5.1	Integrate consideration of economic factors affecting aircraft.	4	*Optional content: routing, level, speed, rate of climb and rate of descent, approach profile*	APP APS
APP ACFT 3.5.2	Use continuous climb techniques where applicable.	3		APP *ACP* APS *ACS*
APP ACFT 3.5.3	Use direct routing where applicable.	3		APP *ACP* APS *ACS*

Subtopic ACFT 3.6 - Environmental factors

APP ACFT 3.6.1	Appreciate the performance restrictions due to environmental constraints.	3	*Optional content: fuel dumping, noise abatement procedures, minimum flight levels, bird hazard, continuous descent operations*	APP APS

TOPIC ACFT 4 - AIRCRAFT DATA

Subtopic ACFT 4.1 - Performance data

APP ACFT 4.1.1	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	APP ACP APS ACS

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

APP HUM 1.1.1	Describe the human information processing model.	2	Attention, perception, memory, situational awareness, decision making, response	ALL
APP 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
APP 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

APP HUM 2.1.1	State factors that cause fatigue.	1	Shift work *Optional content: night shifts and rosters*	ALL
APP 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
APP 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
APP HUM 2.1.4	Recognise the onset of fatigue in others.	1		ALL
APP HUM 2.1.5	Describe appropriate action when recognising fatigue.	2		ALL

Subtopic HUM 2.2 - Fitness				
APP HUM 2.2.1	Recognise signs of lack of personal fitness.	1		ALL
APP 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)				
APP HUM 3.1.1	State the relevance of TRM.	1	*Optional content: TRM course, EUROCONTROL Guidelines for the development of TRM training*	ALL
APP 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				
APP HUM 3.2.1	Identify reasons for conflict.	3		ALL
APP HUM 3.2.2	Describe actions to prevent human conflicts.	2	*Optional content: TRM team roles*	ALL
APP 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				
APP 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
APP 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

APP 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

APP HUM 4.2.1	Act to reduce stress.	3	The effect of personality in coping with stress, the benefits of active stress management	ALL
APP 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
APP HUM 4.2.3	Recognise the effect of shocking and stressful events.	1	Self and others, abnormal situations, CISM	ALL
APP HUM 4.2.4	Consider the benefits of Critical Incident Stress Management (CISM).	2		ALL
APP 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

APP 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
APP 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

APP 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
APP 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
APP 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
APP 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
APP 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
APP 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				
APP 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

APP HUM 6.1.1	Use communication effectively in ATC.	3		ALL
APP 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

APP 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
APP 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
APP HUM 6.2.3	List possible actions to provide a safe position handover.	1	*Optional content: rigour, preparation, overlap time*	ALL
APP 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

APP 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

APP 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

APP EQPS 1.1.1	Operate two-way communication equipment.	3	Transmit/receive switches, procedures *Optional content: frequency selection, standby equipment*	ALL
APP EQPS 1.1.2	Identify indications of operational status of radio equipment.	3	*Optional content: indicator lights, serviceability displays, selector/frequency displays*	ALL
APP EQPS 1.1.3	Consider radio range.	2	*Optional content: transfer to another frequency, apparent radio failure, failure to establish radio contact, frequency protection range*	APP ACP APS ACS

Subtopic EQPS 1.2 - Other voice communications

APP 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)

APP 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

APP EQPS 2.2.1	Use automatic data transfer equipment where available.	3	*Optional content: automated information and coordination, OLDI*	APP ACP

TOPIC EQPS 3 - CONTROLLER WORKING POSITION

Subtopic EQPS 3.1 - Operation and monitoring of equipment				
APP EQPS 3.1.1	Monitor the technical integrity of the controller working position.	3	Notification procedures, responsibilities	ALL
APP 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
APP EQPS 3.1.3	Operate available equipment in abnormal and emergency situations.	3		ALL
Subtopic EQPS 3.2 - Situation displays and information systems				
APP EQPS 3.2.1	Use situation displays.	3		ALL
APP EQPS 3.2.2	Check availability of information material.	3		ALL
APP EQPS 3.2.3	Obtain information from equipment.	3		APP ACP APS ACS
Subtopic EQPS 3.3 - Flight data systems				
APP 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				
APP 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

APP EQPS 5.1.1	Take account of the limitations of equipment and systems.	2		ALL
APP EQPS 5.1.2	Respond to technical deficiencies of the operational position.	3	Notification procedures, responsibilities	ALL

Subtopic EQPS 5.2 - Communication equipment degradation

APP EQPS 5.2.1	Identify that communication equipment has degraded.	3	*Optional content: ground-air and landline communications*	APP ACP APS ACS
APP EQPS 5.2.2	Apply contingency procedures in the event of communication equipment degradation.	3	Procedures for total or partial degradation of ground-air and landline communications, alternative methods of transferring data	APP ACP APS ACS

Subtopic EQPS 5.3 - Navigational equipment degradation

APP EQPS 5.3.1	Identify when a navigational equipment failure will affect operational ability.	3	*Optional content: VOR, navigational aids*	ALL
APP 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 approach control unit

APP PEN 1.1.1	Appreciate the functions and provision of an operational approach control service.	3	Study visit to an approach control unit	APP APS

TOPIC PEN 2 - AIRSPACE USERS

Subtopic PEN 2.1 - Contributors to civil ATS operations

APP PEN 2.1.1	Characterise civil ATS activities in approach control unit.	2	Study visit to an approach control unit *Optional content: familiarisation visits to TWR, ACC, AIS, RCC*	APP APS
APP 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

APP 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

APP PEN 3.1.1	Identify the role of ATC as a service provider.	3		ALL
APP PEN 3.1.2	Appreciate ATS users requirements.	3		ALL

TOPIC PEN 4 - ENVIRONMENTAL PROTECTION

Subtopic PEN 4.1 - Environmental protection

APP PEN	Describe the environmental constraints on aerodrome operations.	2	*Optional content: ICAO Circular 303 -*	ADV ADI

4.1.1			*Operational opportunities to minimise fuel use and reduce emissions*	APP APS
APP PEN 4.1.2	Explain the use of Collaborative Environmental Management (CEM) process at airports.	2		ADV ADI APP APS
APP PEN 4.1.3	Appreciate the mitigation techniques used to minimise aviation's impact on the environment.	3	*Optional content: continuous descent operations (CDO), noise abatement procedures, noise preferential routes, flight efficiency*	APP APS

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

APP 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
APP ABES 1.1.2	Identify potential or actual abnormal and emergency situations.	3		ALL
APP ABES 1.1.3	Take into account the procedures for given abnormal and emergency situations.	2	*Optional content: ICAO Doc 4444*	APP ACP APS ACS
APP 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
APP 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

APP 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
APP ABES 2.1.2	Apply change of radiotelephony call sign.	3	ICAO Doc 4444	ALL

Subtopic ABES 2.2 - Avoidance of mental overload				
APP ABES 2.2.1	Describe actions to keep control of the situation.	2	*Optional content: sector splitting, holding, flow management, task delegation*	ALL
APP ABES 2.2.2	Organise priority of actions.	4		ALL
APP 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
APP ABES 2.2.4	Consider asking for help.	2		ALL
Subtopic ABES 2.3 - Air / ground cooperation				
APP ABES 2.3.1	Collect appropriate information relevant to the situation.	3		ALL
APP 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				
APP 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				
APP 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

APP 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				
APP 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				
APP 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
APP ABES 3.4.2	Apply the procedures in the case of unidentified aircraft.	3	ICAO Doc 4444	ALL
Subtopic ABES 3.5 - Diversions				
APP ABES 3.5.1	Provide navigational assistance to diverting emergency aircraft.	4	Track/heading, distance, other navigational assistance *Optional content: nearest most suitable aerodrome*	APP ACP APS ACS

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

APP AGA 1.1.1	Define aerodrome data.	1	Regulation (EU) No 139/2014[40] - EASA ED Decision 2014/013/R[41] 'CS-ADR-DSN - Initial issue', EASA ED Decision 2014/012/R[42] 'ADR AMC/GM – Initial issue' *Optional content: aerodrome elevation, reference point, apron, movement area, manoeuvring area, hot spot*	ADV ADI APP APS

Subtopic AGA 1.2 - Coordination

APP 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 'CS-ADR-DSN - Initial issue', EASA ED Decision 2014/012/R 'ADR AMC/GM – Initial issue'	APP APS ADV ADI

TOPIC AGA 2 - MOVEMENT AREA

Subtopic AGA 2.1 - Movement area

APP AGA 2.1.1	Describe movement area.	2	Regulation (EU) No 139/2014 - EASA ED Decision 2014/013/R 'CS-ADR-DSN - Initial issue', EASA ED Decision 2014/012/R 'ADR AMC/GM – Initial issue'	ADV ADI APP APS
APP AGA 2.1.2	Describe the marking of obstacles and unusable or unserviceable areas.	2	Flags, signs on pavement, lights	ADV ADI APP APS

[40] Commission Regulation (EU) No 139/2014 of 12 February 2014 laying down requirements and administrative procedures related to aerodromes pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council (OJ L 44, 14.2.2014, p. 1).

[41] Decision 2014/013/R of the Executive Director of the Agency of 27 February 2014 adopting Certification Specifications and Guidance Material for Aerodromes Design 'CS-ADR-DSN - Initial issue'

[42] Decision 2014/012/R of the Executive Director of the Agency of 27 February 2014 adopting Acceptable Means of Compliance and Guidance Material to Regulation (EU) No 139/2014 'AMC/GM for Aerodromes – Initial Issue'

APP 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

APP AGA 2.2.1	Describe manoeuvring area.	2	Regulation (EU) No 139/2014 - EASA ED Decision 2014/013/R 'CS-ADR-DSN - Initial issue', EASA ED Decision 2014/012/R 'ADR AMC/GM – Initial issue'	ADV ADI APP APS
APP AGA 2.2.2	Describe taxiway.	2		ADV ADI APP APS
APP AGA 2.2.3	Describe the daylight marking on taxiways.	2		ADV ADI APP APS
APP AGA 2.2.4	Describe taxiway lighting.	2		ADV ADI APP APS

Subtopic AGA 2.3 - Runways

APP AGA 2.3.1	Describe runway.	2	Runway, runway surface, runway strip, shoulder, runway end safety areas, clearways, stopways	ADV ADI APP APS
APP AGA 2.3.2	Describe instrument runway.	2	Regulation (EU) No 139/2014 - EASA ED Decision 2014/013/R 'CS-ADR-DSN - Initial issue', EASA ED Decision 2014/012/R 'ADR AMC/GM – Initial issue'	ADI APP APS
APP AGA 2.3.3	Describe non-instrument runway.	2	Regulation (EU) No 139/2014 - EASA ED Decision 2014/013/R 'CS-ADR-DSN - Initial issue', EASA ED Decision 2014/012/R 'ADR AMC/GM – Initial issue'	*ADV* ADI APP APS
APP AGA 2.3.4	Explain declared distances.	2	TORA, TODA, ASDA, LDA	*ADV* ADI APP APS

APP AGA 2.3.5	Explain the differences between ACN and PCN.	2	Strength of pavements	*ADV* ADI APP APS
APP 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
APP AGA 2.3.7	Describe runway lights.	2	*Optional content: colour, centre line, intensity, edge, touchdown zone, threshold, barettes*	*ADV* ADI APP APS
APP AGA 2.3.8	Explain the functions of visual landing aids.	2	*Optional content: AVASI, VASI, PAPI*	*ADV* ADI APP APS
APP AGA 2.3.9	Describe the approach lighting systems.	2	Centre line, cross bars, stroboscopic lights, colours, intensity and brightness	*ADV* ADI APP APS
APP AGA 2.3.10	Characterise the effect of water/ice on runways.	2		*ADV* ADI APP APS
APP AGA 2.3.11	Explain braking action.	2	Braking action coefficient	*ADV* ADI APP APS
APP 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

APP 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

APP 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

AMC1 ATCO.D.010(a)(2)(iv) Composition of initial training - content

AREA CONTROL PROCEDURAL RATING (ACP) TRAINING - SUBJECT OBJECTIVES AND TRAINING OBJECTIVES

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AMC1 ATCO.D.010(a)(2)(iv) Composition of initial training

AREA CONTROL PROCEDURAL RATING (ACP) TRAINING — SUBJECT OBJECTIVES AND TRAINING OBJECTIVES

(a) The general principles that apply to this AMC are contained in AMC1 ATCO.D.010(a).

(b) ATCO Rating training Area Control Procedural Rating (ACP) should contain the following subject objectives and training objectives that are associated with the subjects, topics and subtopics contained in Appendix 6 to Annex I to Commission Regulation (EU) 2015/340 — Area Control Procedural Rating (ACP).

(c) Subjects, topics and subtopics from Appendix 6 to Annex I to Commission Regulation (EU) 2015/340 are repeated in this AMC for the convenience of the reader and do not form part of it.

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

ACP INTR 1.1.1	Explain the aims and main objectives of the course.	2		ALL

Subtopic INTR 1.2 - Course administration

ACP INTR 1.2.1	State course administration.	1		ALL

Subtopic INTR 1.3 - Study material and training documentation

ACP 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
ACP 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

ACP 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
ACP INTR 2.1.2	State the subjects of the course and their purpose.	1		ALL
ACP INTR 2.1.3	Describe the organisation of theoretical training.	2	*Optional content: course programme*	ALL
ACP 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

ACP 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

ACP 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

ACP LAW 1.1.1	Appreciate the conditions which shall be met to issue an Area Control Procedural rating.	3	Regulation (EU) 2015/340[43] on ATCO Licensing *Optional content: national documents*	ACP
ACP LAW 1.1.2	Explain how to maintain and update professional knowledge and skills to retain competence in the operational environment.	2		ALL
ACP LAW 1.1.3	Explain the conditions for suspension/revocation of ATCO licence.	2	Regulation (EU) 2015/340 on ATCO Licensing	ALL

TOPIC LAW 2 - RULES AND REGULATIONS

Subtopic LAW 2.1 - Reports

ACP 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
ACP 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
ACP LAW 2.1.3	Use forms for reporting.	3	Regulation (EU) No 376/2014[44], air traffic incident reporting form(s) *Optional content: routine air reports, breach of regulations, watch/log book, records*	ALL

[43] Commission Regulation (EU) 2015/340 of 20 February 2015 laying down technical requirements and administrative procedures relating to air traffic controllers' licences and certificates pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council, amending Commission Implementing Regulation (EU) No 923/2012 and repealing Commission Regulation (EU) No 805/2011 (OJ L 63, 6.3.2015, p. 1).

[44] Regulation (EU) No 376/2014 of the European Parliament and of the Council of 3 April 2014 on the reporting, analysis and follow-up of occurrences in civil aviation, amending Regulation (EU) No 996/2010 of the European Parliament and of the Council and repealing Directive 2003/42/EC of the European Parliament and of the Council and Commission Regulations (EC) No 1321/2007 and (EC) No 1330/2007 (OJ L 122, 24.4.2014, p. 18).

Subtopic LAW 2.2 - Airspace				
ACP LAW 2.2.1	Appreciate classes and structure of airspace and their relevance to Area Control Procedural rating operations.	3		ACP
ACP 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[45], ICAO Annex 2, ICAO Annex 11, international requirements, civil requirements, military requirements, areas of responsibility, sectorization, national requirements*	ALL
ACP LAW 2.2.3	Appreciate responsibility for terrain clearance.	3		ALL

TOPIC LAW 3 - ATC SAFETY MANAGEMENT

Subtopic LAW 3.1 - Feedback process				
ACP LAW 3.1.1	State the importance of controller contribution to the feedback process.	1	*Optional content: voluntary reporting*	ALL
ACP LAW 3.1.2	Describe how reported occurrences are analysed.	2	*Optional content: ESARR 2, local procedures*	ALL
ACP LAW 3.1.3	Name the means used to disseminate recommendations.	1	*Optional content: safety letters, safety boards web pages*	ALL
ACP 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				
ACP LAW 3.2.1	Describe role and mission of Safety Investigation in the improvement of safety.	2		ALL
ACP LAW 3.2.2	Define working methods of Safety Investigation.	1		ALL

SUBJECT 3: AIR TRAFFIC MANAGEMENT

The subject objective is:

[45] Commission Implementing Regulation (EU) No 923/2012 of 26 September 2012 laying down the common rules of the air and operational provisions regarding services and procedures in air navigation and amending Implementing Regulation (EU) No 1035/2011 and Regulations (EC) No 1265/2007, (EC) No 1794/2006, (EC) No 730/2006, (EC) No 1033/2006 and (EU) No 255/2010 (OJ L 281, 13.10.2012, p. 1).

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

TOPIC ATM 1 - PROVISION OF SERVICES

Subtopic ATM 1.1 - Air traffic control (ATC) service

ACP ATM 1.1.1	Appreciate own area of responsibility.	3		APP ACP APS ACS
ACP ATM 1.1.2	Provide area control service.	4	Regulation (EU) No 923/2012, ICAO Annex 11, ICAO Doc 7030, ICAO Doc 4444, operation manuals	ACP ACS

Subtopic ATM 1.2 - Flight information service (FIS)

ACP ATM 1.2.1	Provide FIS.	4	ICAO Doc 4444 *Optional content: national documents*	*ALL*
ACP ATM 1.2.2	Issue appropriate information concerning the location of conflicting traffic.	3	ICAO Doc 4444, traffic information, essential traffic information	APP ACP *APS* *ACS*

Subtopic ATM 1.3 - Alerting service (ALRS)

ACP ATM 1.3.1	Provide ALRS.	4	ICAO Doc 4444 *Optional content: national documents*	ALL
ACP ATM 1.3.2	Respond to distress and urgency messages and signals.	3	Regulation (EU) No 923/2012, 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				
ACP ATM 1.4.1	Appreciate principles of ATS system capacity and air traffic flow management.	3	*Optional content: EUROCONTROL ATFCM Users Manual, FABs, FUA, free flight, etc.*	APP ACP APS ACS
ACP ATM 1.4.2	Apply flow management procedures in the provision of ATC.	3	*Optional content: EUROCONTROL ATFCM Users Manual*	APP ACP APS ACS
ACP ATM 1.4.3	Organise traffic flows and patterns to take account of airspace boundaries.	4	*Optional content: civil and military, controlled, uncontrolled, advisory, restricted, danger, prohibited, special rules, sector boundaries, national boundaries, FIR boundaries, delegated airspace, transfer of control, transfer of communications, en-route, off-route*	APP ACP APS ACS
ACP ATM 1.4.4	Organise traffic flows and patterns to take account of areas of responsibility.	4	*Optional content: EUROCONTROL ATFCM Users Manual*	APP ACP APS ACS
ACP ATM 1.4.5	Inform supervisor of situation.	3	*Optional content: abnormal situations, decrease in sector capacity, limitations on systems and equipment, changes in workload/capacity, unusual meteorological conditions, relevant information like: reported ground-based incidents, forest fire, smoke, oil pollution*	APP ACP APS ACS
Subtopic ATM 1.5 - Airspace management (ASM)				
ACP ATM 1.5.1	Appreciate the principles and means of ASM.	3	Regulation (EC) No 551/2004[46], Regulation (EC) 2150/2005[47], Regulation (EC) No 730/2006[48] *Optional content: FABs, EUROCONTROL Specification for the application of FUA, TSAs, CDRs, CBAs*	APP ACP APS ACS

[46] Regulation (EC) No 551/2004 of the European Parliament and of the Council of 10 March 2004 on the organisation and use of the airspace in the single European sky (the airspace Regulation) - Commission statement (OJ L 96, 31.3.2004, p. 20).

[47] Commission Regulation (EC) No 2150/2005 of 23 December 2005 laying down common rules for the flexible use of airspace (OJ L 342, 24.12.2005, p. 20).

[48] Commission Regulation (EC) No 730/2006 of 11 May 2006 on airspace classification and access of flights operated under visual flight rules above flight level 195 (OJ L 128, 16.5.2006, p. 3).

ACP ATM 1.5.2	Organise traffic to take account of ASM.	4	*Optional content: CDR, TSA, TRA, CBA, real-time activation, deactivation or reallocation of airspace*	*APP* ACP

TOPIC ATM 2 - COMMUNICATION

Subtopic ATM 2.1 - Effective communication

ACP 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
ACP 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

ACP ATM 3.1.1	Issue appropriate ATC clearances.	3	ICAO Doc 4444 *Optional content: national documents*	ALL
ACP ATM 3.1.2	Integrate appropriate ATC clearances in control service.	4		ALL
ACP ATM 3.1.3	Ensure the agreed course of action is carried out.	4		ALL

Subtopic ATM 3.2 - ATC instructions

ACP ATM 3.2.1	Issue appropriate ATC instructions.	3	ICAO Doc 4444 *Optional content: national documents*	ALL
ACP ATM 3.2.2	Integrate appropriate ATC instructions in control service.	4		ALL
ACP 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

ACP ATM 4.1.1	Identify the need for coordination.	3		ALL

Subtopic ATM 4.2 - Tools and methods for coordination

ACP 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

ACP 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
ACP 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
ACP ATM 4.3.3	Select, after negotiation, an appropriate course of action.	5		ALL
ACP ATM 4.3.4	Ensure the agreed course of action is carried out.	4		ALL
ACP ATM 4.3.5	Coordinate in the provision of FIS.	4	ICAO Doc 4444	ALL
ACP 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

ACP ATM 5.1.1	Allocate levels according to altimetry data.	4	ICAO Doc 8168, ICAO Doc 4444	ALL
ACP 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

ACP ATM 5.2.1	Provide planning, coordination and control actions appropriate to the rules for minimum safe levels and terrain clearance.	4	*Optional content: terrain clearance dimensions, minimum safe altitudes, transition level, minimum flight level, minimum sector altitude*	APP ACP

TOPIC ATM 6 - SEPARATIONS

Subtopic ATM 6.1 - Vertical separation

ACP ATM 6.1.1	Provide standard vertical separation.	4	ICAO Doc 4444, ICAO Doc 7030, level allocation, during climb/descent, rate of climb/descent, RVSM, non-RVSM aircraft, holding pattern	ACP ACS
ACP ATM 6.1.2	Provide increased vertical separation.	4	ICAO Doc 4444, ICAO Doc 7030 *Optional content: level allocation, during climb/descent, rate of climb/descent*	APP ACP APS ACS
ACP ATM 6.1.3	Appreciate the application of vertical emergency separation.	3	ICAO Doc 4444, ICAO Doc 7030	APP ACP APS ACS

Subtopic ATM 6.2 - Horizontal separation

ACP ATM 6.2.1	Provide longitudinal separation.	4	Based on time, based on distance (DME and/or GNSS, RNAV) *Optional content: based on time with Mach number technique*	ACP
ACP ATM 6.2.2	Provide lateral separation.	4	ICAO Doc 4444, ICAO Doc 7030, holding	APP

				ACP
ACP ATM 6.2.3	Provide track separation.	4		ACP APP
ACP ATM 6.2.4	Provide geographical separation.	4	Visual, using navigation aids, area navigation	ACP APP

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

Subtopic ATM 7.1 - Airborne collision avoidance systems

ACP ATM 7.1.1	Differentiate between ACAS advisory thresholds and separation standards applicable in the area control environment.	2	ICAO Doc 9863 *Optional content: EUROCONTROL TCAS web page*	ACP ACS
ACP ATM 7.1.2	Describe the controller responsibility during and following an ACAS RA reported by pilot.	2	ICAO Doc 4444	ALL
ACP 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

TOPIC ATM 8 - DATA DISPLAY

Subtopic ATM 8.1 - Data management

ACP 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
ACP ATM 8.1.2	Analyse pertinent data on data displays.	4		ALL
ACP ATM 8.1.3	Organise pertinent data on data displays.	4		ALL
ACP ATM 8.1.4	Obtain flight plan information.	3	CPL, FPL, supplementary information *Optional content: RPL, AFIL, etc.*	ALL
ACP 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

ACP ATM 9.1.1	Obtain information concerning the operational environment.	3	*Optional content: briefing, notices, local orders, verification of information*	ALL
ACP ATM 9.1.2	Ensure the integrity of the operational environment.	4	*Optional content: integrity of displays, verification of the information provided by displays, etc.*	APP ACP APS ACS

Subtopic ATM 9.2 - Verification of the currency of operational procedures

ACP ATM 9.2.1	Check all relevant documentation before managing traffic.	3	*Optional content: briefing, LOAs, NOTAM, AICs*	ALL
ACP ATM 9.2.2	Manage traffic in accordance with procedural changes.	4		APP ACP APS ACS

Subtopic ATM 9.3 - Handover-takeover

ACP ATM 9.3.1	Transfer information to the relieving controller.	3		ALL
ACP ATM 9.3.2	Obtain information from the controller handing over.	3		ALL

TOPIC ATM 10 - PROVISION OF CONTROL SERVICE

Subtopic ATM 10.1 - Responsibility and processing of information

ACP ATM 10.1.1	Describe the division of responsibility between air traffic control units.	2	ICAO Doc 4444	*ALL*
ACP ATM 10.1.2	Describe the responsibility in regard to military traffic.	2	ICAO Doc 4444 *Optional content: ICAO Doc 9554*	*ALL*
ACP ATM 10.1.3	Describe the responsibility in regard to unmanned free balloons.	2	ICAO Doc 4444	APP ACP APS ACS
ACP ATM 10.1.4	Obtain operational information.	3	ICAO Doc 4444, local operation manuals	APP ACP APS

				ACS
ACP ATM 10.1.5	Interpret operational information.	5		APP ACP APS ACS
ACP ATM 10.1.6	Organise forwarding of operational information.	4	*Optional content: including the use of backup procedures*	APP ACP APS ACS
ACP ATM 10.1.7	Integrate operational information into control decisions.	4		APP ACP APS ACS
ACP ATM 10.1.8	Appreciate the influence of operational requirements.	3	*Optional content: military flying, calibration flights, aerial photography*	*ALL*
Subtopic ATM 10.2 - Area control				
ACP ATM 10.2.1	Explain the responsibility for the provision of an area procedural control service.	2	ICAO Doc 4444, ICAO Annex 11, local operation manuals	ACP
ACP ATM 10.2.2	Provide planning, coordination and control actions appropriate to the VFR and IFR in VMC and IMC.	4	Regulation (EU) No 923/2012, ICAO Annex 11, ICAO Doc 4444	ACP *ACS*
Subtopic ATM 10.3 - Traffic management process				
ACP ATM 10.3.1	Ensure that situational awareness is maintained.	4	Information gathering, traffic projection	APP ACP
ACP ATM 10.3.2	Detect conflicts in time for appropriate resolution.	4		ALL
ACP ATM 10.3.3	Identify potential solutions to achieve a safe and effective traffic flow.	3		APP ACP APS ACS
ACP ATM 10.3.4	Evaluate possible outcomes of different planning and control actions.	5		APP ACP APS ACS
ACP ATM 10.3.5	Select an appropriate plan in time to achieve safe and effective traffic flow.	5		APP ACP APS

				ACS
ACP ATM 10.3.6	Ensure an adequate priority of actions.	4		*ALL*
ACP ATM 10.3.7	Execute selected plan in a timely manner.	3		APP ACP APS ACS
ACP ATM 10.3.8	Ensure a safe and efficient outcome is achieved.	4	Traffic monitoring, adaptability and follow up	ALL
Subtopic ATM 10.4 - Handling traffic				
ACP ATM 10.4.1	Manage arrivals, departures and overflights.	4		APP ACP APS ACS
ACP ATM 10.4.2	Balance the workload against personal capacity.	5	*Optional content: re-routing, re-planning, prioritising solutions, denying requests, delegating responsibility for separation*	APP ACP APS ACS

TOPIC ATM 11 - HOLDING

Subtopic ATM 11.1 - General holding procedures				
ACP ATM 11.1.1	Apply holding procedures.	3	ICAO Doc 4444, holding instructions, allocation of holding levels, onward clearance times	APP ACP APS ACS
ACP ATM 11.1.2	Appreciate the factors affecting holding patterns.	3	Effect of speed, effect of level used, effect of navigation aid in use, turbulence, aircraft type	APP ACP APS ACS
Subtopic ATM 11.2 - Holding aircraft				
ACP ATM 11.2.1	Calculate expected onward clearance times.	3		ACP ACS

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

ACP MET 1.1.1	Appreciate the impact of adverse weather.	3	Thunderstorms, icing, jet streams, clear air turbulence (CAT), turbulence, microburst, severe mountain waves, line squalls, volcanic ash *Optional content: solar radiation*	ACP ACS
ACP MET 1.1.2	Integrate data about meteorological phenomena into provision of ATS.	4	Clearances, instructions and transmitted information *Optional content: relevant meteorological phenomena*	*ALL*
ACP MET 1.1.3	Use techniques to avoid adverse weather when necessary/possible.	3	Re-routing, level change, etc.	APP ACP APS ACS

TOPIC MET 2 - SOURCES OF METEOROLOGICAL DATA

Subtopic MET 2.1 - Sources of meteorological information

ACP MET 2.1.1	Obtain meteorological information	3	METAR, TAF, SIGMET, AIRMET *Optional content: AIREP/AIREP Special*	APP ACP APS ACS
ACP MET 2.1.2	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

ACP NAV 1.1.1	Use relevant maps and charts.	3		*APP* ACP *APS* ACS

TOPIC NAV 2 - INSTRUMENT NAVIGATION

Subtopic NAV 2.1 - Navigational systems

ACP NAV 2.1.1	Manage traffic in case of change in the operational status of navigational systems.	4	*Optional content: limitations, status of ground-based and satellite-based systems*	APP ACP APS ACS
ACP NAV 2.1.2	Appreciate the effect of precision, limitations and change of the operational status of navigational systems.	3	*Optional content: limitations, status, degraded procedures*	*ALL*

Subtopic NAV 2.2 - Navigational assistance

ACP NAV 2.2.1	Evaluate the necessary information to be provided to pilots in need of navigational assistance.	5	*Optional content: nearest most suitable aerodrome, track, heading, distance, aerodrome information, any other navigational assistance relevant at the time*	*APP* ACP *APS* ACS

Subtopic NAV 2.3 - PBN applications

ACP NAV 2.3.1	State the navigation applications used in terminal and en-route environments.	1	Terminal-RNAV-1 (≈P-RNAV); En-route-RNAV-5 (B-RNAV) *Optional content: A-RNP, EC PBN Implementing Rule, ICAO Doc 9613*	ACP ACS
ACP NAV 2.3.2	Explain the principles and designation of navigation specifications in use.	2	*Optional content: performance, functionality, sensors, aircrew and controller requirements*	*APP* ACP *APS* ACS
ACP NAV 2.3.3	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

ACP ACFT 1.1.1	Integrate information from aircraft instruments provided by the pilot in the provision of ATS.	4		ALL
ACP ACFT 1.1.2	Explain the operation of aircraft radio equipment.	2	*Optional content: radios (number of), emergency radios*	ALL

TOPIC ACFT 2 - AIRCRAFT CATEGORIES

Subtopic ACFT 2.1 - Wake turbulence

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

TOPIC ACFT 3 - FACTORS AFFECTING AIRCRAFT PERFORMANCE

Subtopic ACFT 3.1 - Climb factors

ACP ACFT 3.1.1	Integrate the influence of factors affecting aircraft during climb.	4	*Optional content: speed, mass, air density, cabin pressurisation, wind and temperature*	APP ACP APS ACS

Subtopic ACFT 3.2 - Cruise factors

ACP ACFT 3.2.1	Integrate the influence of factors affecting aircraft during cruise.	4	Level, cruising speed, wind, mass, cabin pressurisation	APP ACP APS ACS

Subtopic ACFT 3.3 - Descent factors				
ACP ACFT 3.3.1	Integrate the influence of factors affecting aircraft during descent.	4	*Optional content: wind, speed, rate of descent, cabin pressurisation*	ACP ACS
Subtopic ACFT 3.4 - Economic factors				
ACP ACFT 3.4.1	Integrate consideration of economic factors affecting aircraft.	4	*Optional content: routing, level, speed, rate of climb and rate of descent, approach profile, top of descent*	ACP ACS
ACP ACFT 3.4.2	Use continuous climb techniques where applicable.	3		*APP* ACP *APS* ACS
ACP ACFT 3.4.3	Use direct routing where applicable.	3		*APP* ACP *APS* ACS
Subtopic ACFT 3.5 - Environmental factors				
ACP ACFT 3.5.1	Appreciate the performance restrictions due to environmental constraints.	3	*Optional content: fuel dumping, minimum flight levels, continuous descent operations*	ACP ACS

TOPIC ACFT 4 - AIRCRAFT DATA

Subtopic ACFT 4.1 - Performance data				
ACP ACFT 4.1.1	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	APP ACP APS ACS

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

ACP HUM 1.1.1	Describe the human information processing model.	2	Attention, perception, memory, situational awareness, decision making, response	ALL
ACP 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
ACP 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

ACP HUM 2.1.1	State factors that cause fatigue.	1	Shift work *Optional content: night shifts and rosters*	ALL
ACP 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
ACP 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
ACP HUM 2.1.4	Recognise the onset of fatigue in others.	1		ALL
ACP HUM 2.1.5	Describe appropriate action when recognising fatigue.	2		ALL

Subtopic HUM 2.2 - Fitness				
ACP HUM 2.2.1	Recognise signs of lack of personal fitness.	1		ALL
ACP 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)				
ACP HUM 3.1.1	State the relevance of TRM.	1	*Optional content: TRM course, EUROCONTROL Guidelines for the development of TRM training*	ALL
ACP 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				
ACP HUM 3.2.1	Identify reasons for conflict.	3		ALL
ACP HUM 3.2.2	Describe actions to prevent human conflicts.	2	*Optional content: TRM team roles*	ALL
ACP 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				
ACP 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
ACP 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

ACP 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

ACP HUM 4.2.1	Act to reduce stress.	3	The effect of personality in coping with stress, the benefits of active stress management	ALL
ACP 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
ACP HUM 4.2.3	Recognise the effect of shocking and stressful events.	1	Self and others, abnormal situations, CISM	ALL
ACP HUM 4.2.4	Consider the benefits of Critical Incident Stress Management (CISM).	2		ALL
ACP 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

ACP 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
ACP 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

ACP 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
ACP 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
ACP 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
ACP 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
ACP 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
ACP 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				
ACP 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

ACP HUM 6.1.1	Use communication effectively in ATC.	3		ALL
ACP 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

ACP 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
ACP 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
ACP HUM 6.2.3	List possible actions to provide a safe position handover.	1	*Optional content: rigour, preparation, overlap time*	ALL
ACP 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

ACP 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

ACP 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

ACP EQPS 1.1.1	Operate two-way communication equipment.	3	Transmit/receive switches, procedures *Optional content: frequency selection, standby equipment*	ALL
ACP EQPS 1.1.2	Identify indications of operational status of radio equipment.	3	*Optional content: indicator lights, serviceability displays, selector/frequency displays*	ALL
ACP EQPS 1.1.3	Consider radio range.	2	*Optional content: transfer to another frequency, apparent radio failure, failure to establish radio contact, frequency protection range*	APP ACP APS ACS

Subtopic EQPS 1.2 - Other voice communications

ACP 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)

ACP 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

ACP EQPS 2.2.1	Use automatic data transfer equipment where available.	3	*Optional content: automated information and coordination, OLDI*	APP ACP

TOPIC EQPS 3 - CONTROLLER WORKING POSITION

Subtopic EQPS 3.1 - Operation and monitoring of equipment

ACP EQPS 3.1.1	Monitor the technical integrity of the controller working position.	3	Notification procedures, responsibilities	ALL
ACP 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
ACP EQPS 3.1.3	Operate available equipment in abnormal and emergency situations.	3		ALL

Subtopic EQPS 3.2 - Situation displays and information systems

ACP EQPS 3.2.1	Use situation displays.	3		ALL
ACP EQPS 3.2.2	Check availability of information material.	3		ALL
ACP EQPS 3.2.3	Obtain information from equipment.	3		APP ACP APS ACS

Subtopic EQPS 3.3 - Flight data systems

ACP 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

ACP 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

ACP EQPS 5.1.1	Take account of the limitations of equipment and systems.	2		ALL
ACP EQPS 5.1.2	Respond to technical deficiencies of the operational position.	3	Notification procedures, responsibilities	ALL

Subtopic EQPS 5.2 - Communication equipment degradation

ACP EQPS 5.2.1	Identify that communication equipment has degraded.	3	*Optional content: ground-air and landline communications*	APP ACP APS ACS
ACP EQPS 5.2.2	Apply contingency procedures in the event of communication equipment degradation.	3	Procedures for total or partial degradation of ground-air and landline communications, alternative methods of transferring data	APP ACP APS ACS

Subtopic EQPS 5.3 - Navigational equipment degradation

ACP EQPS 5.3.1	Identify when a navigational equipment failure will affect operational ability.	3	*Optional content: VOR, navigational aids*	ALL
ACP 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 area control centre

ACP PEN 1.1.1	Appreciate the functions and provision of an operational area control service.	3	Study visit to area control centre	ACP ACS

TOPIC PEN 2 - AIRSPACE USERS

Subtopic PEN 2.1 - Contributors to civil ATS operations

ACP PEN 2.1.1	Characterise civil ATS activities in area control centre.	2	Study visit to an area control centre *Optional content: familiarisation visits to TWR, APP, AIS, RCC*	ACP ACS
ACP 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

ACP 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

ACP PEN 3.1.1	Identify the role of ATC as a service provider.	3		ALL
ACP PEN 3.1.2	Appreciate ATS users requirements.	3		ALL

TOPIC PEN 4 - ENVIRONMENTAL PROTECTION

Subtopic PEN 4.1 - Environmental protection

ACP PEN 4.1.1	Appreciate the mitigation techniques used en-route to minimise the aviation's impact on the environment.	3	*Optional content: free route airspace (FRA), night/weekend routes, ICAO Circular 303 - Operational opportunities to minimize fuel use and reduce emissions*	ACP ACS

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

ACP 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
ACP ABES 1.1.2	Identify potential or actual abnormal and emergency situations.	3		ALL
ACP ABES 1.1.3	Take into account the procedures for given abnormal and emergency situations.	2	*Optional content: ICAO Doc 4444*	APP ACP APS ACS
ACP 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
ACP 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

ACP 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
ACP ABES 2.1.2	Apply change of radiotelephony call sign.	3	ICAO Doc 4444	ALL

Subtopic ABES 2.2 - Avoidance of mental overload				
ACP ABES 2.2.1	Describe actions to keep control of the situation.	2	*Optional content: sector splitting, holding, flow management, task delegation*	ALL
ACP ABES 2.2.2	Organise priority of actions.	4		ALL
ACP 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
ACP ABES 2.2.4	Consider asking for help.	2		ALL
Subtopic ABES 2.3 - Air / ground cooperation				
ACP ABES 2.3.1	Collect appropriate information relevant to the situation.	3		ALL
ACP 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				
ACP 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				
ACP 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
ACP 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				

ACP 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				
ACP 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
ACP ABES 3.4.2	Apply the procedures in the case of unidentified aircraft.	3	ICAO Doc 4444	ALL
Subtopic ABES 3.5 - Diversions				
ACP ABES 3.5.1	Provide navigational assistance to diverting emergency aircraft.	4	Track/heading, distance, other navigational assistance *Optional content: nearest most suitable aerodrome*	APP ACP APS ACS

AMC1 ATCO.D.010(a)(2)(v) Composition of initial training - content

APPROACH CONTROL SURVEILLANCE RATING (APS) TRAINING - SUBJECT OBJECTIVES AND TRAINING OBJECTIVES

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AMC1 ATCO.D.010(a)(2)(v) Composition of initial training

APPROACH CONTROL SURVEILLANCE RATING (APS) TRAINING — SUBJECT OBJECTIVES AND TRAINING OBJECTIVES

(a) The general principles that apply to this AMC are contained in AMC1 ATCO.D.010(a).

(b) ATCO Rating training Approach Control Surveillance Rating (APS) should contain the following subject objectives and training objectives that are associated with the subjects, topics and subtopics contained in Appendix 7 to Annex I to Commission Regulation (EU) 2015/340 — Approach Control Surveillance Rating (APS).

(c) Subjects, topics and subtopics from Appendix 7 to Annex I to Commission Regulation (EU) 2015/340 are repeated in this AMC for the convenience of the reader and do not form part of it.

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

APS INTR 1.1.1	Explain the aims and main objectives of the course.	2		ALL

Subtopic INTR 1.2 - Course administration

APS INTR 1.2.1	State course administration.	1		ALL

Subtopic INTR 1.3 - Study material and training documentation

APS 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
APS 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

APS 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
APS INTR 2.1.2	State the subjects of the course and their purpose.	1		ALL
APS INTR 2.1.3	Describe the organisation of theoretical training.	2	*Optional content: course programme*	ALL
APS 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

APS 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

APS 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

APS LAW 1.1.1	Appreciate the conditions which shall be met to issue an Approach Control Surveillance rating.	3	Regulation (EU) 2015/340[49] on ATCO Licensing *Optional content: national documents*	APS
APS LAW 1.1.2	Explain how to maintain and update professional knowledge and skills to retain competence in the operational environment.	2		ALL
APS LAW 1.1.3	Explain the conditions for suspension/revocation of ATCO licence.	2	Regulation (EU) 2015/340 on ATCO Licensing	ALL

TOPIC LAW 2 - RULES AND REGULATIONS

Subtopic LAW 2.1 - Reports

APS 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
APS 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
APS LAW 2.1.3	Use forms for reporting.	3	Regulation (EU) No 376/2014[50], air traffic incident reporting form(s) *Optional content: routine air reports, breach of regulations, watch/log book, records*	ALL

[49] Commission Regulation (EU) 2015/340 of 20 February 2015 laying down technical requirements and administrative procedures relating to air traffic controllers' licences and certificates pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council, amending Commission Implementing Regulation (EU) No 923/2012 and repealing Commission Regulation (EU) No 805/2011 (OJ L 63, 6.3.2015, p. 1).

[50] Regulation (EU) No 376/2014 of the European Parliament and of the Council of 3 April 2014 on the reporting, analysis and follow-up of occurrences in civil aviation, amending Regulation (EU) No 996/2010 of the European Parliament and of the Council and repealing Directive 2003/42/EC of the European Parliament and of the Council and Commission Regulations (EC) No 1321/2007 and (EC) No 1330/2007 (OJ L 122, 24.4.2014, p. 18).

Subtopic LAW 2.2 - Airspace				
APS LAW 2.2.1	Appreciate classes and structure of airspace and their relevance to Approach Control Surveillance rating operations.	3		APS
APS 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[51], ICAO Annex 2, ICAO Annex 11, international requirements, civil requirements, military requirements, areas of responsibility, sectorization, national requirements*	ALL
APS LAW 2.2.3	Appreciate responsibility for terrain clearance.	3		ALL

TOPIC LAW 3 - ATC SAFETY MANAGEMENT

Subtopic LAW 3.1 - Feedback process				
APS LAW 3.1.1	State the importance of controller contribution to the feedback process.	1	*Optional content: voluntary reporting*	ALL
APS LAW 3.1.2	Describe how reported occurrences are analysed.	2	*Optional content: ESARR 2, local procedures*	ALL
APS LAW 3.1.3	Name the means used to disseminate recommendations.	1	*Optional content: safety letters, safety boards web pages*	ALL
APS 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				
APS LAW 3.2.1	Describe role and mission of Safety Investigation in the improvement of safety.	2		ALL
APS LAW 3.2.2	Define working methods of Safety Investigation.	1		ALL

[51] Commission Implementing Regulation (EU) No 923/2012 of 26 September 2012 laying down the common rules of the air and operational provisions regarding services and procedures in air navigation and amending Implementing Regulation (EU) No 1035/2011 and Regulations (EC) No 1265/2007, (EC) No 1794/2006, (EC) No 730/2006, (EC) No 1033/2006 and (EU) No 255/2010 (OJ L 281, 13.10.2012, p. 1).

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 - Air traffic control (ATC) service				
APS ATM 1.1.1	Appreciate own area of responsibility.	3		APP ACP APS ACS
APS ATM 1.1.2	Provide approach control service.	4	Regulation (EU) No 923/2012, ICAO Annex 11, ICAO Doc 7030, ICAO Doc 4444, operation manuals	APP APS
Subtopic ATM 1.2 - Flight information service (FIS)				
APS ATM 1.2.1	Provide FIS.	4	ICAO Doc 4444 *Optional content: national documents*	*ALL*
APS ATM 1.2.2	Use ATS surveillance system for the provision of FIS.	3	ICAO Doc 4444, information to identified aircraft concerning: traffic, navigation *Optional content: weather*	APS ACS
APS ATM 1.2.3	Issue appropriate information concerning the location of conflicting traffic.	3	ICAO Doc 4444, traffic information, essential traffic information	APS ACS *APP* *ACP*
APS ATM 1.2.4	Appreciate the use of ATIS for the provision of flight information service by approach controller.	3		APS *APP*
Subtopic ATM 1.3 - Alerting service (ALRS)				
APS ATM 1.3.1	Provide ALRS.	4	ICAO Doc 4444 *Optional content: national documents*	ALL
APS ATM 1.3.2	Respond to distress and urgency messages and signals.	3	Regulation (EU) No 923/2012, ICAO Annex 10, ICAO Doc 4444 *Optional content: EUROCONTROL Guidelines for Controller Training in the Handling of Unusual/Emergency Situations*	ALL
APS ATM 1.3.3	Use ATS surveillance system for the provision of ALRS.	3		APS ACS

Subtopic ATM 1.4 - ATS system capacity and air traffic flow management

APS ATM 1.4.1	Appreciate principles of ATS system capacity and air traffic flow management.	3	*Optional content: EUROCONTROL ATFCM Users Manual, FABs, FUA, free flight, etc.*	APP ACP APS ACS
APS ATM 1.4.2	Apply flow management procedures in the provision of ATC.	3	*Optional content: EUROCONTROL ATFCM Users Manual*	APP ACP APS ACS
APS ATM 1.4.3	Organise traffic flows and patterns to take account of airspace boundaries.	4	*Optional content: civil and military, controlled, uncontrolled, advisory, restricted, danger, prohibited, special rules, sector boundaries, national boundaries, FIR boundaries, delegated airspace, transfer of control, transfer of communications, en-route, off-route*	APP ACP APS ACS
APS ATM 1.4.4	Organise traffic flows and patterns to take account of areas of responsibility.	4	*Optional content: EUROCONTROL ATFCM Users Manual*	APP ACP APS ACS
APS ATM 1.4.5	Inform supervisor of situation.	3	*Optional content: abnormal situations, decrease in sector capacity, limitations on systems and equipment, changes in workload/capacity, unusual meteorological conditions, relevant information like: reported ground-based incidents, forest fire, smoke, oil pollution*	APP ACP APS ACS
APS ATM 1.4.6	Organise traffic flows and patterns to take account of ATS surveillance system capability.	4		APS ACS

Subtopic ATM 1.5 - Airspace management (ASM)				
APS ATM 1.5.1	Appreciate the principles and means of ASM.	3	Regulation (EC) No 551/2004[52], Regulation (EC) 2150/2005[53], Regulation (EC) No 730/2006[54] *Optional content: FABs, EUROCONTROL Specification for the application of FUA, TSAs, CDRs, CBAs*	APP ACP APS ACS
APS ATM 1.5.2	Organise traffic to take account of ASM.	4	Real-time activation, deactivation or reallocation of airspace *Optional content: CDR, TSA, TRA, CBA*	APS *ACS*
TOPIC ATM 2 - COMMUNICATION				
Subtopic ATM 2.1 - Effective communication				
APS 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
APS 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				
APS ATM 3.1.1	Issue appropriate ATC clearances.	3	ICAO Doc 4444 *Optional content: national documents*	ALL
APS ATM 3.1.2	Integrate appropriate ATC clearances in control service.	4		ALL
APS ATM 3.1.3	Ensure the agreed course of action is carried out.	4		ALL

[52] Regulation (EC) No 551/2004 of the European Parliament and of the Council of 10 March 2004 on the organisation and use of the airspace in the single European sky (the airspace Regulation) - Commission statement (OJ L 96, 31.3.2004, p. 20).

[53] Commission Regulation (EC) No 2150/2005 of 23 December 2005 laying down common rules for the flexible use of airspace (OJ L 342, 24.12.2005, p. 20).

[54] Commission Regulation (EC) No 730/2006 of 11 May 2006 on airspace classification and access of flights operated under visual flight rules above flight level 195 (OJ L 128, 16.5.2006, p. 3).

Subtopic ATM 3.2 - ATC instructions				
APS ATM 3.2.1	Issue appropriate ATC instructions.	3	ICAO Doc 4444 *Optional content: national documents*	ALL
APS ATM 3.2.2	Integrate appropriate ATC instructions in control service.	4		ALL
APS 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				
APS ATM 4.1.1	Identify the need for coordination.	3		ALL
Subtopic ATM 4.2 - Tools and methods for coordination				
APS 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				
APS 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
APS 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
APS ATM 4.3.3	Select, after negotiation, an appropriate course of action.	5		ALL
APS ATM 4.3.4	Ensure the agreed course of action is carried out.	4		ALL
APS ATM 4.3.5	Coordinate in the provision of FIS.	4	ICAO Doc 4444	ALL

APS 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

APS ATM 5.1.1	Allocate levels according to altimetry data.	4	ICAO Doc 8168, ICAO Doc 4444	ALL
APS 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

APS ATM 5.2.1	Provide planning, coordination and control actions appropriate to the rules for minimum safe levels and terrain clearance.	4	*Optional content: minimum vectoring altitude, terrain clearance dimensions, minimum safe altitudes, transition level, minimum flight level, minimum sector altitude*	APS ACS

TOPIC ATM 6 - SEPARATIONS

Subtopic ATM 6.1 - Vertical separation

APS ATM 6.1.1	Provide standard vertical separation.	4	ICAO Doc 4444, ICAO Doc 7030, level allocation, during climb/descent, rate of climb/descent, holding pattern	APP APS
APS ATM 6.1.2	Provide increased vertical separation.	4	ICAO Doc 4444, ICAO Doc 7030 *Optional content: level allocation, during climb/descent, rate of climb/descent*	APP ACP APS ACS
APS ATM 6.1.3	Appreciate the application of vertical emergency separation.	3	ICAO Doc 4444, ICAO Doc 7030	APP ACP APS ACS
APS ATM 6.1.4	Provide vertical separation in a surveillance environment.	4	Pressure altitude-derived information, pilot level reports *Optional content: into/out of ATS*	APS ACS

			surveillance system coverage	
Subtopic ATM 6.2 - Longitudinal separation in a surveillance environment				
APS ATM 6.2.1	Provide longitudinal separation in a surveillance environment.	4	Successive departures, successive arrivals, overflights, speed control, silent transfer, ICAO Doc 4444	APS
Subtopic ATM 6.3 - Delegation of separation				
APS ATM 6.3.1	Delegate separation to pilots in the case of aircraft executing successive visual approaches.	4		APP APS
APS ATM 6.3.2	Appreciate the conditions which must be met when delegating separation to pilots to fly maintaining own separation while in VMC.	3	ICAO Doc 4444	APP APS
Subtopic ATM 6.4 - Wake turbulence distance-based separation				
APS ATM 6.4.1	Provide distance-based wake turbulence separation.	4	ICAO Doc 4444 *Optional content: national documents*	APS *ACS*
Subtopic ATM 6.5 - Separation based on ATS surveillance systems				
APS ATM 6.5.1	Describe how separation based on ATS surveillance systems is applied.	2	ICAO Doc 4444	APS *ACS*
APS ATM 6.5.2	Provide horizontal separation.	4	ICAO Doc 4444, ICAO Doc 7030, local operation manuals, holding	APS *ACS*
APS ATM 6.5.3	Provide horizontal separation by vectoring in a variety of situations.	4	*Optional content: transit, meteorological phenomena, vectoring for approach, departure vs transit vs arrival*	APS *ACS*
APS ATM 6.5.4	Ensure horizontal or vertical separation from airspace boundaries.	4	Adjacent sectors, PRD, TSAs.	APS *ACS*
TOPIC ATM 7 - AIRBORNE COLLISION AVOIDANCE SYSTEMS AND GROUND-BASED SAFETY NETS				
Subtopic ATM 7.1 - Airborne collision avoidance systems				
APS ATM 7.1.1	Differentiate between ACAS advisory thresholds and separation standards applicable in the approach control environment.	2	ICAO Doc 9863 *Optional content: EUROCONTROL TCAS web page*	APP APS
APS ATM 7.1.2	Describe the controller responsibility during and following an ACAS RA reported by pilot.	2	ICAO Doc 4444	ALL

APS 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

APS ATM 7.2.1	Describe the controller responsibility during and following safety net warnings.	2	ICAO Doc 4444 *Optional content: STCA, MSAW, APW, APM*	APS ACS
APS ATM 7.2.2	Respond to ground-based safety net warnings.	3	*Optional content: STCA, MSAW, APW, APM*	APS ACS

TOPIC ATM 8 - DATA DISPLAY

Subtopic ATM 8.1 - Data management

APS 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
APS ATM 8.1.2	Analyse pertinent data on data displays.	4		ALL
APS ATM 8.1.3	Organise pertinent data on data displays.	4		ALL
APS ATM 8.1.4	Obtain flight plan information.	3	CPL, FPL, supplementary information *Optional content: RPL, AFIL, etc.*	ALL
APS 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

APS ATM 9.1.1	Obtain information concerning the operational environment.	3	*Optional content: briefing, notices, local orders, verification of information*	ALL
APS ATM 9.1.2	Ensure the integrity of the operational environment.	4	*Optional content: integrity of displays, verification of the information provided*	APP ACP APS ACS

			by displays, etc.	
Subtopic ATM 9.2 - Verification of the currency of operational procedures				
APS ATM 9.2.1	Check all relevant documentation before managing traffic.	3	*Optional content: briefing, LOAs, NOTAM, AICs*	ALL
APS ATM 9.2.2	Manage traffic in accordance with procedural changes.	4		APP ACP APS ACS
Subtopic ATM 9.3 - Handover-takeover				
APS ATM 9.3.1	Transfer information to the relieving controller.	3		ALL
APS ATM 9.3.2	Obtain information from the controller handing over.	3		ALL

TOPIC ATM 10 - PROVISION OF CONTROL SERVICE

Subtopic ATM 10.1 - Responsibility and processing of information				
APS ATM 10.1.1	Describe the division of responsibility between air traffic control units.	2	ICAO Doc 4444	*ALL*
APS ATM 10.1.2	Describe the responsibility in regard to military traffic.	2	ICAO Doc 4444 *Optional content: ICAO Doc 9554*	*ALL*
APS ATM 10.1.3	Describe the responsibility in regard to unmanned free balloons.	2	ICAO Doc 4444	APP ACP APS ACS
APS ATM 10.1.4	Obtain operational information.	3	ICAO Doc 4444, local operation manuals	APP ACP APS ACS
APS ATM 10.1.5	Interpret operational information.	5		APP ACP APS ACS
APS ATM 10.1.6	Organise forwarding of operational information.	4	*Optional content: including the use of backup procedures*	APP ACP APS

				ACS
APS ATM 10.1.7	Integrate operational information into control decisions.	4		APP ACP APS ACS
APS ATM 10.1.8	Appreciate the influence of operational requirements.	3	*Optional content: military flying, calibration flights, aerial photography*	*ALL*
Subtopic ATM 10.2 - ATS surveillance service				
APS ATM 10.2.1	Explain the responsibility for the provision of an ATS surveillance service appropriate to APS rating.	2	ICAO Doc 4444, ICAO Annex 11, local operation manuals	APS
APS ATM 10.2.2	Explain the functions that may be performed with the use of ATS surveillance systems derived information presented on a situation display.	2	ICAO Doc 4444	APS *ACS*
APS ATM 10.2.3	Provide planning, coordination and control actions appropriate to the VFR, SVFR and IFR in VMC and IMC.	4	Regulation (EU) No 923/2012, ICAO Annex 11, ICAO Doc 4444	APS *APP*
APS ATM 10.2.4	Apply the procedures for termination of ATS surveillance service.	3	ICAO Doc 4444 *Optional content: transfer of control, termination or interruption of ATS surveillance service*	APS ACS
Subtopic ATM 10.3 - Traffic management process				
APS ATM 10.3.1	Ensure that situational awareness is maintained.	4	Information gathering, scanning, traffic projection	APS ACS
APS ATM 10.3.2	Detect conflicts in time for appropriate resolution.	4		ALL
APS ATM 10.3.3	Identify potential solutions to achieve a safe and effective traffic flow.	3		APP ACP APS ACS
APS ATM 10.3.4	Evaluate possible outcomes of different planning and control actions.	5		APP ACP APS ACS
APS ATM	Select an appropriate plan in time to achieve safe and effective traffic flow.	5		APP ACP

10.3.5				APS ACS
APS ATM 10.3.6	Ensure an adequate priority of actions.	4		*ALL*
APS ATM 10.3.7	Execute selected plan in a timely manner.	3		APP ACP APS ACS
APS ATM 10.3.8	Ensure a safe and efficient outcome is achieved.	4	Traffic monitoring, adaptability and follow up	ALL
Subtopic ATM 10.4 - Handling traffic				
APS ATM 10.4.1	Manage arrivals, departures and overflights.	4		APP ACP APS ACS
APS ATM 10.4.2	Balance the workload against personal capacity.	5	*Optional content: re-routing, re-planning, prioritising solutions, denying requests, delegating responsibility for separation*	APP ACP APS ACS
APS ATM 10.4.3	Define flight path monitoring and vectoring.	1	ICAO Doc 4444	APS ACS
APS ATM 10.4.4	Explain the requirements for vectoring and termination of vectoring.	2	ICAO Doc 4444	APS ACS
APS ATM 10.4.5	Provide vectoring.	4	ICAO Doc 4444 *Optional content: separation, expediting arrivals, departures and/or climb to cruising levels, aircraft leaving the hold, navigation assistance, uncontrolled airspace, etc.*	APS ACS
APS ATM 10.4.6	Apply the procedures for termination of vectoring.	3	ICAO Doc 4444	APS ACS
APS ATM 10.4.7	Manage traffic on different types of approaches.	4	Precision, non-precision, visual	*APP* APS
APS ATM 10.4.8	Initiate missed approach.	3	ICAO Doc 4444	*APP* APS

APS ATM 10.4.9	Integrate aircraft on missed approach into the traffic situation.	4		*APP* APS

Subtopic ATM 10.5 - Control service with advanced system support

APS ATM 10.5.1	Appreciate the impact of advanced systems on the provision of approach control service.	3	*Optional content: sequencing systems, arrival management, departure management, automated holding lists, vertical traffic displays, conflict detection and decision making tools, automated information and coordination tools*	APS

TOPIC ATM 11 - HOLDING

Subtopic ATM 11.1 - General holding procedures

APS ATM 11.1.1	Apply holding procedures.	3	ICAO Doc 4444, holding instructions, allocation of holding levels, onward clearance times	APP ACP APS ACS
APS ATM 11.1.2	Appreciate the factors affecting holding patterns.	3	Effect of speed, effect of level used, effect of navigation aid in use, turbulence, aircraft type	APP ACP APS ACS

Subtopic ATM 11.2 - Approaching aircraft

APS ATM 11.2.1	Calculate Expected Approach Times (EATs) and Expected Onward Clearance times.	3		APP APS
APS ATM 11.2.2	Organise the traffic landing sequence in a holding pattern.	4	*Optional content: company preference, aircraft performance, aircraft approach capability, ILS categories, flow control management*	APP APS

Subtopic ATM 11.3 - Holding in a surveillance environment				
APS ATM 11.3.1	Organise traffic to separate other aircraft from holding aircraft.	4		APS ACS
APS ATM 11.3.2	Integrate system support, when available.	4	*Optional content: arrival management system, automated holding lists, vertical traffic displays*	APS ACS

TOPIC ATM 12 - IDENTIFICATION

Subtopic ATM 12.1 - Establishment of identification				
APS ATM 12.1.1	Appreciate the precautions when establishing identification.	3		APS ACS
APS ATM 12.1.2	Identify aircraft.	3	*Optional content: PSR, SSR or ADS identification method*	APS ACS
APS ATM 12.1.3	Apply procedures in the case of misidentification.	3		APS ACS
Subtopic ATM 12.2 - Maintenance of identification				
APS ATM 12.2.1	Appreciate the necessity to maintain identification.	3		APS ACS
Subtopic ATM 12.3 - Loss of identity				
APS ATM 12.3.1	Appreciate when an aircraft identification is lost or in doubt.	3	*Optional content: out of ATS surveillance system coverage, failure of ATS surveillance system, weather clutter, other clutter, garbling, holding, etc.*	APS ACS
APS ATM 12.3.2	Apply methods to re-establish identification.	3		APS ACS
APS ATM 12.3.3	Respond to loss/doubt concerning identification.	3	*Optional content: procedural separation*	APS ACS

Subtopic ATM 12.4 - Position Information				
APS ATM 12.4.1	Appreciate the circumstances when position information should be passed to the aircraft.	3		APS ACS
APS ATM 12.4.2	State the format in which position information can be passed to aircraft.	1	ICAO Doc 4444	APS ACS
Subtopic ATM 12.5 - Transfer of identity				
APS ATM 12.5.1	Apply the methods of transfer of identification.	3		APS ACS
APS ATM 12.5.2	Appreciate the precautions when transferring identification.	3		APS ACS

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

APS MET 1.1.1	Appreciate the impact of adverse weather.	3	Thunderstorms, icing, clear air turbulence (CAT), turbulence, microburst, wind shear, severe mountain waves, line squalls, volcanic ash	APP APS
APS MET 1.1.2	Integrate data about meteorological phenomena into provision of ATS.	4	Clearances, instructions and transmitted information *Optional content: relevant meteorological phenomena*	*ALL*
APS MET 1.1.3	Use techniques to avoid adverse weather when necessary/possible.	3	Re-routing, level change, etc.	APP ACP APS ACS

TOPIC MET 2 - SOURCES OF METEOROLOGICAL DATA

Subtopic MET 2.1 - Sources of meteorological information

APS MET 2.1.1	Obtain meteorological information	3	METAR, TAF, SIGMET, AIRMET *Optional content: AIREP/AIREP Special*	APP ACP APS ACS
APS MET 2.1.2	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

APS 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
APS NAV 1.1.2	Use relevant maps and charts.	3		APP *ACP* APS *ACS*

TOPIC NAV 2 - INSTRUMENT NAVIGATION

Subtopic NAV 2.1 - Navigational systems

APS NAV 2.1.1	Manage traffic in case of change in the operational status of navigational systems.	4	*Optional content: limitations, status of ground-based and satellite-based systems*	APP ACP APS ACS
APS NAV 2.1.2	Appreciate the effect of precision, limitations and change of the operational status of navigational systems.	3	*Optional content: limitations, status, degraded procedures*	*ALL*

Subtopic NAV 2.2 - Stabilised approach

APS NAV 2.2.1	Describe the concept of stabilised approach.	2	ICAO Doc 8168 *Optional content: SKYbrary, Regulation (EC) No 1899/2006*[55]	ADV ADI APP APS
APS NAV 2.2.2	Appreciate the effect of late change of runway-in-use or type of approach for landing aircraft.	3		APP APS
APS NAV 2.2.3	Appreciate controller actions that may contribute to unstabilised approach.	3	Inappropriate speed control, vectoring for short final, vectoring for approach with significant tailwind, glide path interception from above, lack or incorrect distance to touchdown information, delayed descent	APS

[55] Regulation (EC) No 1899/2006 of the European Parliament and of the Council of 12 December 2006 amending Council Regulation (EEC) No 3922/91 on the harmonisation of technical requirements and administrative procedures in the field of civil aviation (OJ L 377, 27.12.2006, p. 1).

Subtopic NAV 2.3 - Instrument departures and arrivals				
APS NAV 2.3.1	Characterise SIDs.	2		ADI APP APS
APS NAV 2.3.2	Describe the types and phases of instrument approach procedures.	2		APP APS
APS 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 - Navigational assistance				
APS NAV 2.4.1	Evaluate the necessary information to be provided to pilots in need of navigational assistance.	5	*Optional content: nearest most suitable aerodrome, track, heading, distance, aerodrome information, any other navigational assistance relevant at the time*	APP *ACP* APS *ACS*
APS NAV 2.4.2	Assist aircraft in navigation when required.	3	Aircraft observed to be deviating from its known intended route, on request	APS *ACS*
Subtopic NAV 2.5 - Satellite-based systems				
APS NAV 2.5.1	State the different applications of satellite-based systems relevant for approach operations.	1	*Optional content: NPA, APV-baro VNAV, APV, LPV, precision approach, ICAO Doc 8168 Vol.2*	APP APS
Subtopic NAV 2.6 - PBN applications				
APS NAV 2.6.1	State the navigation applications used in approach and terminal environments.	1	Approach-RNP APCH/ RNP AR APCH; Terminal-RNAV-1 (≈P-RNAV) *Optional content: A-RNP, EU PBN Implementing Rule, ICAO Doc 9613*	APP APS
APS NAV 2.6.2	Explain the principles and designation of navigation specifications in use.	2	*Optional content: performance, functionality, sensors, aircrew and controller requirements*	APP *ACP* APS *ACS*
APS NAV 2.6.3	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

APS ACFT 1.1.1	Integrate information from aircraft instruments provided by the pilot in the provision of ATS.	4		ALL
APS ACFT 1.1.2	Explain the operation of aircraft radio equipment.	2	*Optional content: radios (number of), emergency radios*	ALL
APS 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

APS ACFT 2.1.1	Explain the wake turbulence effect and associated hazards to the succeeding aircraft.	2		ALL
APS 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

APS ACFT 2.2.1	Describe the use of ICAO approach categories.	2	ICAO Doc 8168	ADI APP APS
APS 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 - Climb factors

APS ACFT 3.1.1	Integrate the influence of factors affecting aircraft during climb.	4	*Optional content: speed, mass, air density, cabin pressurisation, wind and temperature*	APP ACP APS ACS

APS ACFT 3.1.2	Appreciate the influence of factors affecting aircraft on take-off.	3	*Optional content: runway conditions, runway slope, aerodrome elevation, wind, temperature, aircraft configuration, airframe contamination and aircraft mass*	APP APS
Subtopic ACFT 3.2 - Cruise factors				
APS ACFT 3.2.1	Integrate the influence of factors affecting aircraft during cruise.	4	Level, cruising speed, wind, mass, cabin pressurisation	APP ACP APS ACS
Subtopic ACFT 3.3 - Descent and initial approach factors				
APS ACFT 3.3.1	Integrate the influence of factors affecting aircraft during descent.	4	*Optional content: wind, speed, rate of descent, aircraft configuration, cabin pressurisation*	APP APS
Subtopic ACFT 3.4 - Final approach and landing factors				
APS ACFT 3.4.1	Integrate the influence of factors affecting aircraft during final approach and landing.	4	*Optional content: wind, aircraft configuration, mass, meteorological conditions, runway conditions, runway slope, aerodrome elevation*	APP APS
Subtopic ACFT 3.5 - Economic factors				
APS ACFT 3.5.1	Integrate consideration of economic factors affecting aircraft.	4	*Optional content: routing, level, speed, rate of climb and rate of descent, approach profile*	APP APS
APS ACFT 3.5.2	Use continuous climb techniques where applicable.	3		APP *ACP* APS *ACS*
APS ACFT 3.5.3	Use direct routing where applicable.	3		APP *ACP* APS *ACS*

Subtopic ACFT 3.6 - Environmental factors				
APS ACFT 3.6.1	Appreciate the performance restrictions due to environmental constraints.	3	*Optional content: fuel dumping, noise abatement procedures, minimum flight levels, bird hazard, continuous descent operations*	APP APS

TOPIC ACFT 4 - AIRCRAFT DATA

Subtopic ACFT 4.1 - Performance data				
APS ACFT 4.1.1	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	APP ACP APS ACS

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

APS HUM 1.1.1	Describe the human information processing model.	2	Attention, perception, memory, situational awareness, decision making, response	ALL
APS 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
APS 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

APS HUM 2.1.1	State factors that cause fatigue.	1	Shift work *Optional content: night shifts and rosters*	ALL
APS 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
APS 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
APS HUM 2.1.4	Recognise the onset of fatigue in others.	1		ALL
APS HUM 2.1.5	Describe appropriate action when recognising fatigue.	2		ALL

Subtopic HUM 2.2 - Fitness				
APS HUM 2.2.1	Recognise signs of lack of personal fitness.	1		ALL
APS 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)				
APS HUM 3.1.1	State the relevance of TRM.	1	*Optional content: TRM course, EUROCONTROL Guidelines for the development of TRM training*	ALL
APS 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				
APS HUM 3.2.1	Identify reasons for conflict.	3		ALL
APS HUM 3.2.2	Describe actions to prevent human conflicts.	2	*Optional content: TRM team roles*	ALL
APS 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				
APS 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
APS 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				
APS 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				
APS HUM 4.2.1	Act to reduce stress.	3	The effect of personality in coping with stress, the benefits of active stress management	ALL
APS 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
APS HUM 4.2.3	Recognise the effect of shocking and stressful events.	1	Self and others, abnormal situations, CISM	ALL
APS HUM 4.2.4	Consider the benefits of Critical Incident Stress Management (CISM).	2		ALL
APS 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				
APS 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
APS 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
APS 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

APS 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
APS 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
APS 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
APS 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
APS 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				
APS 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				
APS HUM 6.1.1	Use communication effectively in ATC.	3		ALL
APS 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				
APS 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

APS 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
APS HUM 6.2.3	List possible actions to provide a safe position handover.	1	*Optional content: rigour, preparation, overlap time*	ALL
APS 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				
APS 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				
APS 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

APS EQPS 1.1.1	Operate two-way communication equipment.	3	Transmit/receive switches, procedures *Optional content: frequency selection, standby equipment*	ALL
APS EQPS 1.1.2	Identify indications of operational status of radio equipment.	3	*Optional content: indicator lights, serviceability displays, selector/frequency displays*	ALL
APS EQPS 1.1.3	Consider radio range.	2	*Optional content: transfer to another frequency, apparent radio failure, failure to establish radio contact, frequency protection range*	APP ACP APS ACS

Subtopic EQPS 1.2 - Other voice communications

APS 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)

APS 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

APS 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

TOPIC EQPS 3 - CONTROLLER WORKING POSITION

Subtopic EQPS 3.1 - Operation and monitoring of equipment				
APS EQPS 3.1.1	Monitor the technical integrity of the controller working position.	3	Notification procedures, responsibilities	ALL
APS 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
APS EQPS 3.1.3	Operate available equipment in abnormal and emergency situations.	3		ALL
Subtopic EQPS 3.2 - Situation displays and information systems				
APS EQPS 3.2.1	Use situation displays.	3		ALL
APS EQPS 3.2.2	Check availability of information material.	3		ALL
APS EQPS 3.2.3	Obtain information from equipment.	3		APP ACP APS ACS
Subtopic EQPS 3.3 - Flight data systems				
APS EQPS 3.3.1	Use the flight data information at controller working position.	3		ALL
Subtopic EQPS 3.4 - Use of ATS surveillance system				
APS EQPS 3.4.1	Use the ATS surveillance system functions.	3		APS ACS
APS EQPS 3.4.2	Analyse the information provided by the ATS surveillance system.	4		APS ACS
APS EQPS 3.4.3	Assign codes.	4		APS ACS
APS EQPS 3.4.4	Appreciate the use of advanced surveillance technology.	3	*Optional content: Mode S, ADS-B, MLAT*	APS ACS

Subtopic EQPS 3.5 - Advanced systems				
APS EQPS 3.5.1	Appreciate the use of controller pilot datalink communications when available.	3		APS ACS
APS EQPS 3.5.2	Appreciate the use of information provided by advanced systems.	3	*Optional content: trajectory-based information, MTCD, MONA, etc.*	APS ACS

TOPIC EQPS 4 - FUTURE EQUIPMENT

Subtopic EQPS 4.1 - New developments				
APS 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				
APS EQPS 5.1.1	Take account of the limitations of equipment and systems.	2		ALL
APS EQPS 5.1.2	Respond to technical deficiencies of the operational position.	3	Notification procedures, responsibilities	ALL
Subtopic EQPS 5.2 - Communication equipment degradation				
APS EQPS 5.2.1	Identify that communication equipment has degraded.	3	*Optional content: ground-air and landline communications*	APP ACP APS ACS
APS EQPS 5.2.2	Apply contingency procedures in the event of communication equipment degradation.	3	Procedures for total or partial degradation of ground-air and landline communications, alternative methods of transferring data	APP ACP APS ACS
Subtopic EQPS 5.3 - Navigational equipment degradation				
APS EQPS 5.3.1	Identify when a navigational equipment failure will affect operational ability.	3	*Optional content: VOR, navigational aids*	ALL
APS 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

Subtopic EQPS 5.4 - Surveillance equipment degradation				
APS EQPS 5.4.1	Identify that surveillance equipment has degraded.	3	Partial power failure, loss of certain facilities, total failure	APS ACS
APS EQPS 5.4.2	Apply contingency procedures in the event of surveillance equipment degradation.	3	*Optional content: inform adjacent sectors, inform aircraft, apply vertical separation (emergency), increased horizontal separation, reduce the number of aircraft entering area of responsibility, transfer aircraft to another unit*	APS ACS
Subtopic EQPS 5.5 - ATC processing system degradation				
APS EQPS 5.5.1	Identify a processing system degradation.	3	*Optional content: FDPS, SDPS, software processing of situation display*	APS ACS
APS EQPS 5.5.2	Apply contingency procedures in the event of a processing system degradation.	3		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 approach control unit

APS PEN 1.1.1	Appreciate the functions and provision of an operational approach control service.	3	Study visit to an approach control unit	APP APS

TOPIC PEN 2 - AIRSPACE USERS

Subtopic PEN 2.1 - Contributors to civil ATS operations

APS PEN 2.1.1	Characterise civil ATS activities in approach control unit.	2	Study visit to an approach control unit *Optional content: familiarisation visits to TWR, ACC, AIS, RCC*	APP APS
APS 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

APS 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

APS PEN 3.1.1	Identify the role of ATC as a service provider.	3		ALL
APS PEN 3.1.2	Appreciate ATS users requirements.	3		ALL

TOPIC PEN 4 - ENVIRONMENTAL PROTECTION

Subtopic PEN 4.1 - Environmental protection

APS 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
APS PEN 4.1.2	Explain the use of Collaborative Environmental Management (CEM) process at airports.	2		ADV ADI APP APS
APS PEN 4.1.3	Appreciate the mitigation techniques used to minimise aviation's impact on the environment.	3	*Optional content: continuous descent operations (CDO), noise abatement procedures, noise preferential routes, flight efficiency*	APP APS

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

APS 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
APS ABES 1.1.2	Identify potential or actual abnormal and emergency situations.	3		ALL
APS ABES 1.1.3	Take into account the procedures for given abnormal and emergency situations.	2	*Optional content: ICAO Doc 4444*	APP ACP APS ACS
APS 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
APS 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

APS 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
APS ABES 2.1.2	Apply change of radiotelephony call sign.	3	ICAO Doc 4444	ALL

Subtopic ABES 2.2 - Avoidance of mental overload				
APS ABES 2.2.1	Describe actions to keep control of the situation.	2	*Optional content: sector splitting, holding, flow management, task delegation*	ALL
APS ABES 2.2.2	Organise priority of actions.	4		ALL
APS 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
APS ABES 2.2.4	Consider asking for help.	2		ALL
Subtopic ABES 2.3 - Air / ground cooperation				
APS ABES 2.3.1	Collect appropriate information relevant to the situation.	3		ALL
APS 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				
APS 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				
APS 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
APS 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				
APS 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				
APS 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
APS ABES 3.4.2	Apply the procedures in the case of unidentified aircraft.	3	ICAO Doc 4444	ALL
Subtopic ABES 3.5 - Diversions				
APS ABES 3.5.1	Provide navigational assistance to diverting emergency aircraft.	4	Track/heading, distance, other navigational assistance *Optional content: nearest most suitable aerodrome*	APP ACP APS ACS
Subtopic ABES 3.6 - Transponder failure				
APS ABES 3.6.1	Apply procedures in the event of an SSR transponder failure.	3	ICAO Doc 4444, ICAO Doc 7030 *Optional content: total/partial failure, impact on ADS-B/Mode S capability*	APS ACS

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

APS AGA 1.1.1	Define aerodrome data.	1	Regulation (EU) No 139/2014[56] - EASA ED Decision 2014/013/R[57] 'CS-ADR-DSN - Initial issue', EASA ED Decision 2014/012[58]/R 'ADR AMC/GM – Initial issue' *Optional content: aerodrome elevation, reference point, apron, movement area, manoeuvring area, hot spot*	ADV ADI APP APS

Subtopic AGA 1.2 - Coordination

APS 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 'CS-ADR-DSN - Initial issue', EASA ED Decision 2014/012/R 'ADR AMC/GM – Initial issue'	APP APS ADV ADI

TOPIC AGA 2 - MOVEMENT AREA

Subtopic AGA 2.1 - Movement area

APS AGA 2.1.1	Describe movement area.	2	Regulation (EU) No 139/2014 - EASA ED Decision 2014/013/R 'CS-ADR-DSN - Initial issue', EASA ED Decision 2014/012/R 'ADR AMC/GM – Initial issue'	ADV ADI APP APS
APS AGA 2.1.2	Describe the marking of obstacles and unusable or unserviceable areas.	2	Flags, signs on pavement, lights	ADV ADI APP APS

[56] Commission Regulation (EU) No 139/2014 of 12 February 2014 laying down requirements and administrative procedures related to aerodromes pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council(OJ L 44, 14.2.2014, p. 1).

[57] Decision 2014/013/R of the Executive Director of the Agency of 27 February 2014 adopting Certification Specifications and Guidance Material for Aerodromes Design 'CS-ADR-DSN - Initial issue'.

[58] Decision 2014/012/R of the Executive Director of the Agency of 27 February 2014 adopting Acceptable Means of Compliance and Guidance Material to Regulation (EU) No 139/2014 'AMC/GM for Aerodromes – Initial Issue'.

APS 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

APS AGA 2.2.1	Describe manoeuvring area.	2	Regulation (EU) No 139/2014 - EASA ED Decision 2014/013/R 'CS-ADR-DSN - Initial issue', EASA ED Decision 2014/012/R 'ADR AMC/GM – Initial issue'	ADV ADI APP APS
APS AGA 2.2.2	Describe taxiway.	2		ADV ADI APP APS
APS AGA 2.2.3	Describe the daylight marking on taxiways.	2		ADV ADI APP APS
APS AGA 2.2.4	Describe taxiway lighting.	2		ADV ADI APP APS

Subtopic AGA 2.3 - Runways

APS AGA 2.3.1	Describe runway.	2	Runway, runway surface, runway strip, shoulder, runway end safety areas, clearways, stopways	ADV ADI APP APS
APS AGA 2.3.2	Describe instrument runway.	2	Regulation (EU) No 139/2014 - EASA ED Decision 2014/013/R 'CS-ADR-DSN - Initial issue', EASA ED Decision 2014/012/R 'ADR AMC/GM – Initial issue'	ADI APP APS
APS AGA 2.3.3	Describe non-instrument runway.	2	Regulation (EU) No 139/2014 - EASA ED Decision 2014/013/R 'CS-ADR-DSN - Initial issue', EASA ED Decision 2014/012/R 'ADR AMC/GM – Initial issue'	*ADV* ADI APP APS
APS AGA 2.3.4	Explain declared distances.	2	TORA, TODA, ASDA, LDA	*ADV* ADI APP APS

APS AGA 2.3.5	Explain the differences between ACN and PCN.	2	Strength of pavements	*ADV* ADI APP APS
APS 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
APS AGA 2.3.7	Describe runway lights.	2	*Optional content: colour, centre line, intensity, edge, touchdown zone, threshold, barettes*	*ADV* ADI APP APS
APS AGA 2.3.8	Explain the functions of visual landing aids.	2	*Optional content: AVASI, VASI, PAPI*	*ADV* ADI APP APS
APS AGA 2.3.9	Describe the approach lighting systems.	2	Centre line, cross bars, stroboscopic lights, colours, intensity and brightness	*ADV* ADI APP APS
APS AGA 2.3.10	Characterise the effect of water/ice on runways.	2		*ADV* ADI APP APS
APS AGA 2.3.11	Explain braking action.	2	Braking action coefficient	*ADV* ADI APP APS
APS 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

APS 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

APS 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

AMC1 ATCO.D.010(a)(2)(vi) Composition of initial training - content

AREA CONTROL SURVEILLANCE RATING (ACS) TRAINING - SUBJECT OBJECTIVES AND TRAINING OBJECTIVES

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AMC1 ATCO.D.010(a)(2)(vi) Composition of initial training

AREA CONTROL SURVEILLANCE RATING (ACS) TRAINING — SUBJECT OBJECTIVES AND TRAINING OBJECTIVES

(a) The general principles that apply to this AMC are contained in AMC1 ATCO.D.010(a).

(b) ATCO Rating training Area Control Surveillance Rating (ACS) should contain the following subject objectives and training objectives that are associated with the subjects, topics and subtopics contained in Appendix 8 to Annex I to Commission Regulation (EU) No 2015/340 — Area Control Surveillance Rating (ACS).

(c) Subjects, topics and subtopics from Appendix 8 to Annex I to Commission Regulation (EU) 2015/340 are repeated in this AMC for the convenience of the reader and do not form part of it.

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

ACS INTR 1.1.1	Explain the aims and main objectives of the course.	2		ALL

Subtopic INTR 1.2 - Course administration

ACS INTR 1.2.1	State course administration.	1		ALL

Subtopic INTR 1.3 - Study material and training documentation

ACS 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
ACS 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

ACS 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
ACS INTR 2.1.2	State the subjects of the course and their purpose.	1		ALL
ACS INTR 2.1.3	Describe the organisation of theoretical training.	2	*Optional content: course programme*	ALL
ACS 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

ACS 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

ACS 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

ACS LAW 1.1.1	Appreciate the conditions which shall be met to issue an Area Control Surveillance rating.	3	Regulation (EU) 2015/340[59] on ATCO Licensing *Optional content: National documents*	ACS
ACS LAW 1.1.2	Explain how to maintain and update professional knowledge and skills to retain competence in the operational environment.	2		ALL
ACS LAW 1.1.3	Explain the conditions for suspension/revocation of ATCO licence.	2	Regulation (EU) 2015/340 on ATCO Licensing	ALL

TOPIC LAW 2 - RULES AND REGULATIONS

Subtopic LAW 2.1 - Reports

ACS 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
ACS 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

[59] Commission Regulation (EU) 2015/340 of 20 February 2015 laying down technical requirements and administrative procedures relating to air traffic controllers' licences and certificates pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council, amending Commission Implementing Regulation (EU) No 923/2012 and repealing Commission Regulation (EU) No 805/2011 (OJ L 63, 6.3.2015, p. 1).

ACS LAW 2.1.3	Use forms for reporting.	3	Regulation (EU) No 376/2014[60], air traffic incident reporting form(s) *Optional content: routine air reports, breach of regulations, watch/log book, records*	ALL
Subtopic LAW 2.2 - Airspace				
ACS LAW 2.2.1	Appreciate classes and structure of airspace and their relevance to Area Control Surveillance rating operations.	3		ACS
ACS 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[61], ICAO Annex 2, ICAO Annex 11, international requirements, civil requirements, military requirements, areas of responsibility, sectorization, national requirements*	ALL
ACS LAW 2.2.3	Appreciate responsibility for terrain clearance.	3		ALL

TOPIC LAW 3 - ATC SAFETY MANAGEMENT

Subtopic LAW 3.1 - Feedback process				
ACS LAW 3.1.1	State the importance of controller contribution to the feedback process.	1	*Optional content: voluntary reporting*	ALL
ACS LAW 3.1.2	Describe how reported occurrences are analysed.	2	*Optional content: ESARR 2, local procedures*	ALL
ACS LAW 3.1.3	Name the means used to disseminate recommendations.	1	*Optional content: safety letters, safety boards web pages*	ALL

[60] Regulation (EU) No 376/2014 of the European Parliament and of the Council of 3 April 2014 on the reporting, analysis and follow-up of occurrences in civil aviation, amending Regulation (EU) No 996/2010 of the European Parliament and of the Council and repealing Directive 2003/42/EC of the European Parliament and of the Council and Commission Regulations (EC) No 1321/2007 and (EC) No 1330/2007 (OJ L 122, 24.4.2014, p. 18).

[61] Commission Implementing Regulation (EU) No 923/2012 of 26 September 2012 laying down the common rules of the air and operational provisions regarding services and procedures in air navigation and amending Implementing Regulation (EU) No 1035/2011 and Regulations (EC) No 1265/2007, (EC) No 1794/2006, (EC) No 730/2006, (EC) No 1033/2006 and (EU)No 255/2010 (OJ L 281, 13.10.2012, p. 1).

ACS 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				
ACS LAW 3.2.1	Describe role and mission of Safety Investigation in the improvement of safety.	2		ALL
ACS 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 - Air traffic control (ATC) service

ACS ATM 1.1.1	Appreciate own area of responsibility.	3		APP ACP APS ACS
ACS ATM 1.1.2	Provide area control service.	4	Regulation (EU) No 923/2012, ICAO Annex 11, ICAO Doc 7030, ICAO Doc 4444, operation manuals	ACP ACS

Subtopic ATM 1.2 - Flight information service (FIS)

ACS ATM 1.2.1	Provide FIS.	4	ICAO Doc 4444 *Optional content: national documents*	*ALL*
ACS ATM 1.2.2	Use ATS surveillance system for the provision of FIS.	3	ICAO Doc 4444, information to identified aircraft concerning: traffic, navigation *Optional content: weather*	APS ACS
ACS ATM 1.2.3	Issue appropriate information concerning the location of conflicting traffic.	3	ICAO Doc 4444, traffic information, essential traffic information	APS ACS *APP* *ACP*

Subtopic ATM 1.3 - Alerting service (ALRS)

ACS ATM 1.3.1	Provide ALRS.	4	ICAO Doc 4444 *Optional content: national documents*	ALL
ACS ATM 1.3.2	Respond to distress and urgency messages and signals.	3	Regulation (EU) No 923/2012, ICAO Annex 10, ICAO Doc 4444 *Optional content: EUROCONTROL Guidelines for Controller Training in the Handling of Unusual/Emergency Situations*	ALL
ACS ATM 1.3.3	Use ATS surveillance system for the provision of ALRS.	3		APS ACS

Subtopic ATM 1.4 - ATS system capacity and air traffic flow management

ACS ATM 1.4.1	Appreciate principles of ATS system capacity and air traffic flow management.	3	*Optional content: EUROCONTROL ATFCM Users Manual, FABs, FUA, free flight, etc.*	APP ACP APS ACS
ACS ATM 1.4.2	Apply flow management procedures in the provision of ATC.	3	*Optional content: EUROCONTROL ATFCM Users Manual*	APP ACP APS ACS
ACS ATM 1.4.3	Organise traffic flows and patterns to take account of airspace boundaries.	4	*Optional content: civil and military, controlled, uncontrolled, advisory, restricted, danger, prohibited, special rules, sector boundaries, national boundaries, FIR boundaries, delegated airspace, transfer of control, transfer of communications, en-route, off-route*	APP ACP APS ACS
ACS ATM 1.4.4	Organise traffic flows and patterns to take account of areas of responsibility.	4	*Optional content: EUROCONTROL ATFCM Users Manual*	APP ACP APS ACS
ACS ATM 1.4.5	Inform supervisor of situation.	3	*Optional content: abnormal situations, decrease in sector capacity, limitations on systems and equipment, changes in workload/capacity, unusual meteorological conditions, relevant information like: reported ground-based incidents, forest fire, smoke, oil pollution*	APP ACP APS ACS
ACS ATM 1.4.6	Organise traffic flows and patterns to take account of ATS surveillance system capability.	4		APS ACS

Subtopic ATM 1.5 - Airspace management (ASM)				
ACS ATM 1.5.1	Appreciate the principles and means of ASM.	3	Regulation (EC) No 551/2004[62], Regulation (EC) 2150/2005[63], Regulation (EC) No 730/2006[64] *Optional content: FABs, EUROCONTROL Specification for the application of FUA, TSAs, CDRs, CBAs*	APP ACP APS ACS
ACS ATM 1.5.2	Organise traffic to take account of ASM.	4	Real-time activation, deactivation or reallocation of airspace *Optional content: CDR, TSA, TRA, CBA*	*APS* ACS

TOPIC ATM 2 - COMMUNICATION

Subtopic ATM 2.1 - Effective communication				
ACS 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
ACS 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				
ACS ATM 3.1.1	Issue appropriate ATC clearances.	3	ICAO Doc 4444 *Optional content: national documents*	ALL
ACS ATM 3.1.2	Integrate appropriate ATC clearances in control service.	4		ALL
ACS ATM 3.1.3	Ensure the agreed course of action is carried out.	4		ALL

[62] Regulation (EC) No 551/2004 of the European Parliament and of the Council of 10 March 2004 on the organisation and use of the airspace in the single European sky (the airspace Regulation) - Commission statement (OJ L 96, 31.3.2004, p. 20).

[63] Commission Regulation (EC) No 2150/2005 of 23 December 2005 laying down common rules for the flexible use of airspace (OJ L 342, 24.12.2005, p. 20.)

[64] Commission Regulation (EC) No 730/2006 of 11 May 2006 on airspace classification and access of flights operated under visual flight rules above flight level 195 (OJ L 128, 16.5.2006, p. 3).

Subtopic ATM 3.2 - ATC instructions				
ACS ATM 3.2.1	Issue appropriate ATC instructions.	3	ICAO Doc 4444 *Optional content: national documents*	ALL
ACS ATM 3.2.2	Integrate appropriate ATC instructions in control service.	4		ALL
ACS 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				
ACS ATM 4.1.1	Identify the need for coordination.	3		ALL
Subtopic ATM 4.2 - Tools and methods for coordination				
ACS 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				
ACS 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
ACS 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
ACS ATM 4.3.3	Select, after negotiation, an appropriate course of action.	5		ALL
ACS ATM 4.3.4	Ensure the agreed course of action is carried out.	4		ALL
ACS ATM 4.3.5	Coordinate in the provision of FIS.	4	ICAO Doc 4444	ALL

ACS 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

ACS ATM 5.1.1	Allocate levels according to altimetry data.	4	ICAO Doc 8168, ICAO Doc 4444	ALL
ACS 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

ACS ATM 5.2.1	Provide planning, coordination and control actions appropriate to the rules for minimum safe levels and terrain clearance.	4	*Optional content: minimum vectoring altitude, terrain clearance dimensions, minimum safe altitudes, transition level, minimum flight level, minimum sector altitude*	APS ACS

TOPIC ATM 6 - SEPARATIONS

Subtopic ATM 6.1 - Vertical separation

ACS ATM 6.1.1	Provide standard vertical separation.	4	ICAO Doc 4444, ICAO Doc 7030, level allocation, during climb/descent, rate of climb/descent, RVSM, non-RVSM aircraft, holding pattern	ACP ACS
ACS ATM 6.1.2	Provide increased vertical separation.	4	ICAO Doc 4444, ICAO Doc 7030 *Optional content: level allocation, during climb/descent, rate of climb/descent*	APP ACP APS ACS
ACS ATM 6.1.3	Appreciate the application of vertical emergency separation.	3	ICAO Doc 4444, ICAO Doc 7030	APP ACP APS ACS

ACS ATM 6.1.4	Provide vertical separation in a surveillance environment.	4	Pressure altitude-derived information, pilot level reports *Optional content: into/out of ATS surveillance system coverage*	APS ACS

Subtopic ATM 6.2 - Longitudinal separation in a surveillance environment

ACS ATM 6.2.1	Provide longitudinal separation in a surveillance environment.	4	Successive departures, successive arrivals, overflights, speed control, Mach number techniques, silent transfer, ICAO Doc 4444	ACS

Subtopic ATM 6.3 - Wake turbulence distance-based separation

ACS ATM 6.3.1	Provide distance-based wake turbulence separation.	4	ICAO Doc 4444 *Optional content: national documents*	*APS* ACS

Subtopic ATM 6.4 - Separation based on ATS surveillance systems

ACS ATM 6.4.1	Describe how separation based on ATS surveillance systems is applied.	2	ICAO Doc 4444	*APS* ACS
ACS ATM 6.4.2	Provide horizontal separation.	4	ICAO Doc 4444, ICAO Doc 7030, local operation manuals, holding	*APS* ACS
ACS ATM 6.4.3	Provide horizontal separation by vectoring in a variety of situations.	4	*Optional content: transit, meteorological phenomena, vectoring for approach, departure vs transit vs arrival*	*APS* ACS
ACS ATM 6.4.4	Ensure horizontal or vertical separation from airspace boundaries.	4	Adjacent sectors, PRD, TSAs.	*APS* ACS

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

Subtopic ATM 7.1 - Airborne collision avoidance systems

ACS ATM 7.1.1	Differentiate between ACAS advisory thresholds and separation standards applicable in the area control environment.	2	ICAO Doc 9863 *Optional content: EUROCONTROL TCAS web page*	ACP ACS
ACS ATM 7.1.2	Describe the controller responsibility during and following an ACAS RA reported by pilot.	2	ICAO Doc 4444	ALL
ACS 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

ACS ATM 7.2.1	Describe the controller responsibility during and following safety net warnings.	2	ICAO Doc 4444 *Optional content: STCA, MSAW, APW, APM*	APS ACS
ACS ATM 7.2.2	Respond to ground-based safety net warnings.	3	*Optional content: STCA, MSAW, APW, APM*	APS ACS

TOPIC ATM 8 - DATA DISPLAY

Subtopic ATM 8.1 - Data management

ACS 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
ACS ATM 8.1.2	Analyse pertinent data on data displays.	4		ALL
ACS ATM 8.1.3	Organise pertinent data on data displays.	4		ALL
ACS ATM 8.1.4	Obtain flight plan information.	3	CPL, FPL, supplementary information *Optional content: RPL, AFIL, etc.*	ALL
ACS 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

ACS ATM 9.1.1	Obtain information concerning the operational environment.	3	*Optional content: briefing, notices, local orders, verification of information*	ALL
ACS ATM 9.1.2	Ensure the integrity of the operational environment.	4	*Optional content: integrity of displays, verification of the information provided by displays, etc.*	APP ACP APS ACS

Subtopic ATM 9.2 - Verification of the currency of operational procedures

ACS ATM 9.2.1	Check all relevant documentation before managing traffic.	3	*Optional content: briefing, LOAs, NOTAM, AICs*	ALL
ACS ATM 9.2.2	Manage traffic in accordance with procedural changes.	4		APP ACP APS ACS
Subtopic ATM 9.3 - Handover-takeover				
ACS ATM 9.3.1	Transfer information to the relieving controller.	3		ALL
ACS ATM 9.3.2	Obtain information from the controller handing over.	3		ALL

TOPIC ATM 10 - PROVISION OF CONTROL SERVICE

Subtopic ATM 10.1 - Responsibility and processing of information				
ACS ATM 10.1.1	Describe the division of responsibility between air traffic control units.	2	ICAO Doc 4444	*ALL*
ACS ATM 10.1.2	Describe the responsibility in regard to military traffic.	2	ICAO Doc 4444 *Optional content: ICAO Doc 9554*	*ALL*
ACS ATM 10.1.3	Describe the responsibility in regard to unmanned free balloons.	2	ICAO Doc 4444	APP ACP APS ACS
ACS ATM 10.1.4	Obtain operational information.	3	ICAO Doc 4444, local operation manuals	APP ACP APS ACS
ACS ATM 10.1.5	Interpret operational information.	5		APP ACP APS ACS
ACS ATM 10.1.6	Organise forwarding of operational information.	4	*Optional content: including the use of backup procedures*	APP ACP APS ACS
ACS ATM 10.1.7	Integrate operational information into control decisions.	4		APP ACP

				APS ACS
ACS ATM 10.1.8	Appreciate the influence of operational requirements.	3	*Optional content: military flying, calibration flights, aerial photography*	*ALL*
Subtopic ATM 10.2 - ATS surveillance service				
ACS ATM 10.2.1	Explain the responsibility for the provision of ATS surveillance service appropriate to ACS rating.	2	ICAO Doc 4444, ICAO Annex 11, local operation manuals	ACS
ACS ATM 10.2.2	Explain the functions that may be performed with the use of ATS surveillance systems derived information presented on a situation display.	2	ICAO Doc 4444	*APS* ACS
ACS ATM 10.2.3	Provide planning, coordination and control actions appropriate to the VFR and IFR in VMC and IMC.	4	Regulation (EU) No 923/2012, ICAO Annex 11, ICAO Doc 4444	ACS *ACP*
ACS ATM 10.2.4	Apply the procedures for termination of ATS surveillance service.	3	ICAO Doc 4444 *Optional content: transfer of control, termination or interruption of ATS surveillance service*	APS ACS
Subtopic ATM 10.3 - Traffic management process				
ACS ATM 10.3.1	Ensure that situational awareness is maintained.	4	Information gathering, scanning, traffic projection	APS ACS
ACS ATM 10.3.2	Detect conflicts in time for appropriate resolution.	4		ALL
ACS ATM 10.3.3	Identify potential solutions to achieve a safe and effective traffic flow.	3		APP ACP APS ACS
ACS ATM 10.3.4	Evaluate possible outcomes of different planning and control actions.	5		APP ACP APS ACS
ACS ATM 10.3.5	Select an appropriate plan in time to achieve safe and effective traffic flow.	5		APP ACP APS ACS
ACS ATM 10.3.6	Ensure an adequate priority of actions.	4		ALL

ACS ATM 10.3.7	Execute selected plan in a timely manner.	3		APP ACP APS ACS
ACS ATM 10.3.8	Ensure a safe and efficient outcome is achieved.	4	Traffic monitoring, adaptability and follow up	ALL
Subtopic ATM 10.4 - Handling traffic				
ACS ATM 10.4.1	Manage arrivals, departures and overflights.	4		APP ACP APS ACS
ACS ATM 10.4.2	Balance the workload against personal capacity.	5	*Optional content: re-routing, re-planning, prioritising solutions, denying requests, delegating responsibility for separation*	APP ACP APS ACS
ACS ATM 10.4.3	Define flight path monitoring and vectoring.	1	ICAO Doc 4444	APS ACS
ACS ATM 10.4.4	Explain the requirements for vectoring and termination of vectoring.	2	ICAO Doc 4444	APS ACS
ACS ATM 10.4.5	Provide vectoring.	4	ICAO Doc 4444 *Optional content: separation, expediting arrivals, departures and/or climb to cruising levels, aircraft leaving the hold, navigation assistance, uncontrolled airspace, etc.*	APS ACS
ACS ATM 10.4.6	Apply the procedures for termination of vectoring.	3	ICAO Doc 4444	APS ACS
Subtopic ATM 10.5 - Control service with advanced system support				
ACS ATM 10.5.1	Appreciate the impact of advanced systems on the provision of area control service.	3	*Optional content: sequencing systems, automated holding lists, vertical traffic displays, conflict detection and decision making tools, automated information and coordination tools*	ACS

TOPIC ATM 11 - HOLDING

Subtopic ATM 11.1 - General holding procedures

ACS ATM 11.1.1	Apply holding procedures.	3	ICAO Doc 4444, holding instructions, allocation of holding levels, onward clearance times	APP ACP APS ACS
ACS ATM 11.1.2	Appreciate the factors affecting holding patterns.	3	Effect of speed, effect of level used, effect of navigation aid in use, turbulence, aircraft type	APP ACP APS ACS

Subtopic ATM 11.2 - Holding aircraft

ACS ATM 11.2.1	Calculate expected onward clearance times.	3		ACP ACS

Subtopic ATM 11.3 - Holding in a surveillance environment

ACS ATM 11.3.1	Organise traffic to separate other aircraft from holding aircraft.	4		APS ACS
ACS ATM 11.3.2	Integrate system support, when available.	4	*Optional content: arrival management system, automated holding lists, vertical traffic displays*	APS ACS

TOPIC ATM 12 - IDENTIFICATION

Subtopic ATM 12.1 - Establishment of identification

ACS ATM 12.1.1	Appreciate the precautions when establishing identification.	3		APS ACS
ACS ATM 12.1.2	Identify aircraft.	3	*Optional content: PSR, SSR or ADS identification method*	APS ACS
ACS ATM 12.1.3	Apply procedures in the case of misidentification.	3		APS ACS

Subtopic ATM 12.2 - Maintenance of identification

ACS ATM 12.2.1	Appreciate the necessity to maintain identification.	3		APS ACS

Subtopic ATM 12.3 - Loss of identity				
ACS ATM 12.3.1	Appreciate when an aircraft identification is lost or in doubt.	3	*Optional content: out of ATS surveillance system coverage, failure of ATS surveillance system, weather clutter, other clutter, garbling, holding, etc.*	APS ACS
ACS ATM 12.3.2	Apply methods to re-establish identification.	3		APS ACS
ACS ATM 12.3.3	Respond to loss/doubt concerning identification.	3	*Optional content: procedural separation*	APS ACS
Subtopic ATM 12.4 - Position Information				
ACS ATM 12.4.1	Appreciate the circumstances when position information should be passed to the aircraft.	3		APS ACS
ACS ATM 12.4.2	State the format in which position information can be passed to aircraft.	1	ICAO Doc 4444	APS ACS
Subtopic ATM 12.5 - Transfer of identity				
ACS ATM 12.5.1	Apply the methods of transfer of identification.	3		APS ACS
ACS ATM 12.5.2	Appreciate the precautions when transferring identification.	3		APS ACS

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

ACS MET 1.1.1	Appreciate the impact of adverse weather.	3	Thunderstorms, icing, jet streams, clear air turbulence (CAT), turbulence, microburst, severe mountain waves, line squalls, volcanic ash *Optional content: solar radiation*	ACP ACS
ACS MET 1.1.2	Integrate data about meteorological phenomena into provision of ATS.	4	Clearances, instructions and transmitted information *Optional content: relevant meteorological phenomena*	*ALL*
ACS MET 1.1.3	Use techniques to avoid adverse weather when necessary/possible.	3	Re-routing, level change, etc.	APP ACP APS ACS

TOPIC MET 2 - SOURCES OF METEOROLOGICAL DATA

Subtopic MET 2.1 - Sources of meteorological information

ACS MET 2.1.1	Obtain meteorological information	3	METAR, TAF, SIGMET, AIRMET *Optional content: AIREP/AIREP Special*	APP ACP APS ACS
ACS MET 2.1.2	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

ACS NAV 1.1.1	Use relevant maps and charts.	3		*APP* ACP *APS* ACS

TOPIC NAV 2 - INSTRUMENT NAVIGATION

Subtopic NAV 2.1 - Navigational systems

ACS NAV 2.1.1	Manage traffic in case of change in the operational status of navigational systems.	4	*Optional content: limitations, status of ground-based and satellite-based systems*	APP ACP APS ACS
ACS NAV 2.1.2	Appreciate the effect of precision, limitations and change of the operational status of navigational systems.	3	*Optional content: limitations, status, degraded procedures*	*ALL*

Subtopic NAV 2.2 - Navigational assistance

ACS NAV 2.2.1	Evaluate the necessary information to be provided to pilots in need of navigational assistance.	5	*Optional content: nearest most suitable aerodrome, track, heading, distance, aerodrome information, any other navigational assistance relevant at the time*	*APP* ACP *APS* ACS
ACS NAV 2.2.2	Assist aircraft in navigation when required.	3	Aircraft observed to be deviating from its known intended route, on request	*APS* ACS

Subtopic NAV 2.3 - PBN applications

ACS NAV 2.3.1	State the navigation applications used in terminal and en-route environments.	1	Terminal-RNAV-1 (≈P-RNAV); En-route-RNAV-5 (B-RNAV) *Optional content: A-RNP, EC PBN Implementing Rule, ICAO Doc 9613*	ACP ACS
ACS NAV	Explain the principles and designation of navigation specifications in use.	2		*APP* ACP

2.3.2			*Optional content: performance, functionality, sensors, aircrew and controller requirements*	*APS* ACS
ACS NAV 2.3.3	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

ACS ACFT 1.1.1	Integrate information from aircraft instruments provided by the pilot in the provision of ATS.	4		ALL
ACS ACFT 1.1.2	Explain the operation of aircraft radio equipment.	2	*Optional content: radios (number of), emergency radios*	ALL
ACS 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

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

TOPIC ACFT 3 - FACTORS AFFECTING AIRCRAFT PERFORMANCE

Subtopic ACFT 3.1 - Climb factors

ACS ACFT 3.1.1	Integrate the influence of factors affecting aircraft during climb.	4	*Optional content: speed, mass, air density, cabin pressurisation, wind and temperature*	APP ACP APS ACS

Subtopic ACFT 3.2 - Cruise factors

ACS ACFT 3.2.1	Integrate the influence of factors affecting aircraft during cruise.	4	Level, cruising speed, wind, mass, cabin pressurisation	APP ACP APS ACS

Subtopic ACFT 3.3 - Descent factors				
ACS ACFT 3.3.1	Integrate the influence of factors affecting aircraft during descent.	4	*Optional content: wind, speed, rate of descent, cabin pressurisation*	ACP ACS
Subtopic ACFT 3.4 - Economic factors				
ACS ACFT 3.4.1	Integrate consideration of economic factors affecting aircraft.	4	*Optional content: routing, level, speed, rate of climb and rate of descent, approach profile, top of descent*	ACP ACS
ACS ACFT 3.4.2	Use continuous climb techniques where applicable.	3		*APP* ACP *APS* ACS
ACS ACFT 3.4.3	Use direct routing where applicable.	3		*APP* ACP *APS* ACS
Subtopic ACFT 3.5 - Environmental factors				
ACS ACFT 3.5.1	Appreciate the performance restrictions due to environmental constraints.	3	*Optional content: fuel dumping, minimum flight levels, continuous descent operations*	ACP ACS

TOPIC ACFT 4 - AIRCRAFT DATA

Subtopic ACFT 4.1 - Performance data				
ACS ACFT 4.1.1	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	APP ACP APS ACS

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

ACS HUM 1.1.1	Describe the human information processing model.	2	Attention, perception, memory, situational awareness, decision making, response	ALL
ACS 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
ACS 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

ACS HUM 2.1.1	State factors that cause fatigue.	1	Shift work *Optional content: night shifts and rosters*	ALL
ACS 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
ACS 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
ACS HUM 2.1.4	Recognise the onset of fatigue in others.	1		ALL
ACS HUM 2.1.5	Describe appropriate action when recognising fatigue.	2		ALL

Subtopic HUM 2.2 - Fitness				
ACS HUM 2.2.1	Recognise signs of lack of personal fitness.	1		ALL
ACS 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)				
ACS HUM 3.1.1	State the relevance of TRM.	1	*Optional content: TRM course, EUROCONTROL Guidelines for the development of TRM training*	ALL
ACS 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				
ACS HUM 3.2.1	Identify reasons for conflict.	3		ALL
ACS HUM 3.2.2	Describe actions to prevent human conflicts.	2	*Optional content: TRM team roles*	ALL
ACS 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				
ACS 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
ACS 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				
ACS 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				
ACS HUM 4.2.1	Act to reduce stress.	3	The effect of personality in coping with stress, the benefits of active stress management	ALL
ACS 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
ACS HUM 4.2.3	Recognise the effect of shocking and stressful events.	1	Self and others, abnormal situations, CISM	ALL
ACS HUM 4.2.4	Consider the benefits of Critical Incident Stress Management (CISM).	2		ALL
ACS 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				
ACS 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
ACS 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
ACS 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

ACS 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
ACS 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
ACS 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
ACS 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
ACS 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				
ACS 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				
ACS HUM 6.1.1	Use communication effectively in ATC.	3		ALL
ACS 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				
ACS 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

ACS 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
ACS HUM 6.2.3	List possible actions to provide a safe position handover.	1	*Optional content: rigour, preparation, overlap time*	ALL
ACS 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				
ACS 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				
ACS 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

ACS EQPS 1.1.1	Operate two-way communication equipment.	3	Transmit/receive switches, procedures *Optional content: frequency selection, standby equipment*	ALL
ACS EQPS 1.1.2	Identify indications of operational status of radio equipment.	3	*Optional content: indicator lights, serviceability displays, selector/frequency displays*	ALL
ACS EQPS 1.1.3	Consider radio range.	2	*Optional content: transfer to another frequency, apparent radio failure, failure to establish radio contact, frequency protection range*	APP ACP APS ACS

Subtopic EQPS 1.2 - Other voice communications

ACS 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)

ACS 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

ACS 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

TOPIC EQPS 3 - CONTROLLER WORKING POSITION

Subtopic EQPS 3.1 - Operation and monitoring of equipment				
ACS EQPS 3.1.1	Monitor the technical integrity of the controller working position.	3	Notification procedures, responsibilities	ALL
ACS 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
ACS EQPS 3.1.3	Operate available equipment in abnormal and emergency situations.	3		ALL
Subtopic EQPS 3.2 - Situation displays and information systems				
ACS EQPS 3.2.1	Use situation displays.	3		ALL
ACS EQPS 3.2.2	Check availability of information material.	3		ALL
ACS EQPS 3.2.3	Obtain information from equipment.	3		APP ACP APS ACS
Subtopic EQPS 3.3 - Flight data systems				
ACS EQPS 3.3.1	Use the flight data information at controller working position.	3		ALL
Subtopic EQPS 3.4 - Use of ATS surveillance system				
ACS EQPS 3.4.1	Use the ATS surveillance system functions.	3		APS ACS
ACS EQPS 3.4.2	Analyse the information provided by the ATS surveillance system.	4		APS ACS
ACS EQPS 3.4.3	Assign codes.	4		APS ACS
ACS EQPS 3.4.4	Appreciate the use of advanced surveillance technology.	3	*Optional content: Mode S, ADS-B, MLAT*	APS ACS

Subtopic EQPS 3.5 - Advanced systems				
ACS EQPS 3.5.1	Appreciate the use of controller pilot datalink communications when available.	3		APS ACS
ACS EQPS 3.5.2	Appreciate the use of information provided by advanced systems.	3	*Optional content: trajectory-based information, MTCD, MONA, etc.*	APS ACS
TOPIC EQPS 4 - FUTURE EQUIPMENT				
Subtopic EQPS 4.1 - New developments				
ACS 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				
ACS EQPS 5.1.1	Take account of the limitations of equipment and systems.	2		ALL
ACS EQPS 5.1.2	Respond to technical deficiencies of the operational position.	3	Notification procedures, responsibilities	ALL
Subtopic EQPS 5.2 - Communication equipment degradation				
ACS EQPS 5.2.1	Identify that communication equipment has degraded.	3	*Optional content: ground-air and landline communications*	APP ACP APS ACS
ACS EQPS 5.2.2	Apply contingency procedures in the event of communication equipment degradation.	3	Procedures for total or partial degradation of ground-air and landline communications, alternative methods of transferring data	APP ACP APS ACS
Subtopic EQPS 5.3 - Navigational equipment degradation				
ACS EQPS 5.3.1	Identify when a navigational equipment failure will affect operational ability.	3	*Optional content: VOR, navigational aids*	ALL
ACS 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

Subtopic EQPS 5.4 - Surveillance equipment degradation				
ACS EQPS 5.4.1	Identify that surveillance equipment has degraded.	3	Partial power failure, loss of certain facilities, total failure	APS ACS
ACS EQPS 5.4.2	Apply contingency procedures in the event of surveillance equipment degradation.	3	*Optional content: inform adjacent sectors, inform aircraft, apply vertical separation (emergency), increased horizontal separation, reduce the number of aircraft entering area of responsibility, transfer aircraft to another unit*	APS ACS
Subtopic EQPS 5.5 - ATC processing system degradation				
ACS EQPS 5.5.1	Identify a processing system degradation.	3	*Optional content: FDPS, SDPS, software processing of situation display*	APS ACS
ACS EQPS 5.5.2	Apply contingency procedures in the event of a processing system degradation.	3		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 area control centre

ACS PEN 1.1.1	Appreciate the functions and provision of an operational area control service.	3	Study visit to area control centre	ACP ACS

TOPIC PEN 2 - AIRSPACE USERS

Subtopic PEN 2.1 - Contributors to civil ATS operations

ACS PEN 2.1.1	Characterise civil ATS activities in area control centre.	2	Study visit to an area control centre *Optional content: familiarisation visits to TWR, APP, AIS, RCC*	ACP ACS
ACS 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

ACS 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

ACS PEN 3.1.1	Identify the role of ATC as a service provider.	3		ALL
ACS PEN 3.1.2	Appreciate ATS users requirements.	3		ALL

TOPIC PEN 4 - ENVIRONMENTAL PROTECTION

Subtopic PEN 4.1 - Environmental protection

ACS PEN 4.1.1	Appreciate the mitigation techniques used en-route to minimise the aviation's impact on the environment.	3	*Optional content: free route airspace (FRA), night/weekend routes, ICAO Circular 303 - Operational opportunities to minimize fuel use and reduce emissions*	ACP ACS

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

ACS 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
ACS ABES 1.1.2	Identify potential or actual abnormal and emergency situations.	3		ALL
ACS ABES 1.1.3	Take into account the procedures for given abnormal and emergency situations.	2	*Optional content: ICAO Doc 4444*	APP ACP APS ACS
ACS 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
ACS 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

ACS 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
ACS ABES 2.1.2	Apply change of radiotelephony call sign.	3	ICAO Doc 4444	ALL

Subtopic ABES 2.2 - Avoidance of mental overload				
ACS ABES 2.2.1	Describe actions to keep control of the situation.	2	*Optional content: sector splitting, holding, flow management, task delegation*	ALL
ACS ABES 2.2.2	Organise priority of actions.	4		ALL
ACS 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
ACS ABES 2.2.4	Consider asking for help.	2		ALL
Subtopic ABES 2.3 - Air / ground cooperation				
ACS ABES 2.3.1	Collect appropriate information relevant to the situation.	3		ALL
ACS 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				
ACS 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				
ACS 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
ACS 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				
ACS 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				
ACS 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
ACS ABES 3.4.2	Apply the procedures in the case of unidentified aircraft.	3	ICAO Doc 4444	ALL
Subtopic ABES 3.5 - Diversions				
ACS ABES 3.5.1	Provide navigational assistance to diverting emergency aircraft.	4	Track/heading, distance, other navigational assistance *Optional content: nearest most suitable aerodrome*	APP ACP APS ACS
Subtopic ABES 3.6 - Transponder failure				
ACS ABES 3.6.1	Apply procedures in the event of an SSR transponder failure.	3	ICAO Doc 4444, ICAO Doc 7030 *Optional content: total/partial failure, impact on ADS-B/Mode S capability*	APS ACS