Acceptable Means of Compliance and Guidance Material to Part ATCO

Issue 2

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ANNEX I – PART ATCO – REQUIREMENTS FOR THE LICENSING OF AIR TRAFFIC CONTROLLERS

SUBPART A – GENERAL REQUIREMENTS

GM1 ATCO.A.010 Application for change of competent authority

RECOGNITION OF LICENCES AND CERTIFICATES

Considering Article 67 of Regulation (EU) 2018/1139, mutual recognition applies to:

(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 Member States in accordance with this Regulation;

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

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

GM1 ATCO.A.010(a) Application for change of competent authority

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.

GM1 ATCO.A.010(b) Application for change of competent authority

EXERCISE OF STUDENT AIR TRAFFIC CONTROLLER PRIVILEGES

The privileges of a student air traffic controller licence may also be exercised by an air traffic controller that undertakes training for a new unit endorsement.

AMC1 ATCO.A.010(b);(c) Application for change of competent authority

EXERCISE OF LICENCE PRIVILEGES AND LANGUAGE PROFICIENCY REQUIREMENTS

According to point ATCO.B.030(a), air traffic controllers and student air traffic controllers should not exercise the privileges of their licences unless they have a valid language proficiency endorsement in the language(s) imposed by their Member State.

If such local language requirements are imposed, the change of competent authority and the resulting exchange of licence should take place before the start of the on-the-job training to enter the new language proficiency endorsement.

The exercise of synthetic training device instructor (STDI) and assessor privileges in a synthetic training device environment in a Member State whose competent authority is not the one that has issued the licence, should be limited to exercises and assessments conducted in the English language, unless the STDI or assessor holds a language proficiency endorsement in the language imposed by the Member State where the privileges are exercised.

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

GROUNDS FOR PROVISIONAL INABILITY

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

(1) under the influence of psychoactive substances;

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

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

(b) Provisional inability based on the grounds referred to in points (a)(1) and (a)(2) is meant to cover only short periods of time (for example: generally before the next scheduled duty period, but no longer than 7 days) with the aim of allowing the affected air traffic controller to consult an aero-medical examiner regarding the doubts about being able to safely exercise the privileges of their licence.

In such cases, the provisional inability may only remain applicable until a medical review is performed by an aero-medical examiner.

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 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; and

(c) the processes to inform the competent authority.

SUBPART B – LICENCES, RATINGS AND ENDORSEMENTS

GM1 ATCO.B.001(a);(d) Student air traffic controller licence

PRIVILEGES OF A STUDENT AIR TRAFFIC CONTROLLER LICENCE

The privileges of a student air traffic controller licence are exercised when providing air traffic control services in live traffic under the supervision of an on-the-job training instructor. A student air traffic controller licence is required for on-the-job training and not necessarily for the transitional and pre-on-the-job phases of unit training.

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.

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

ASSESSMENT OF PREVIOUS COMPETENCE

The assessment of previous competence includes an assessment of the practical skills demonstrated by the person being assessed as well as an examination of the person's knowledge and understanding.

GM1 ATCO.B.005(e) Air traffic controller licence

ASSESSMENT OF PREVIOUS COMPETENCE

The assessment of previous competence includes an assessment of the practical skills demonstrated by the person being assessed as well as an examination of the person's knowledge and understanding.

AMC1 ATCO.B.010(a)(2);(3) Air traffic controller ratings

SURVEILLANCE FALLBACK AND CONTINGENCY MEASURES

The approach control procedural (APP) rating is not required for approach control surveillance (APS) rating holders when applying surveillance fallback and contingency measures. However, with reference to points ATCO.D.045(c)(3) and ATCO.D.080(b)(2), specific training related to surveillance fallback and contingency procedures should be included in the unit and refresher training to prepare air traffic controllers to deal with such situations.

If contingency plans also include procedures for service continuity by means of providing procedural air traffic control services, a procedural rating should be held and maintained.

AMC1 ATCO.B.010(a)(4);(5) Air traffic controller ratings

SURVEILLANCE FALLBACK AND CONTINGENCY MEASURES

The area control procedural (ACP) rating is not required for area control surveillance (ACS) rating holders when applying surveillance fallback and contingency measures. However, with reference to points ATCO.D.045(c)(3) and ATCO.D.080(b)(2), specific training related to surveillance fallback and contingency procedures should be included in the unit and refresher training to prepare air traffic controllers to deal with such situations.

If contingency plans also include procedures for service continuity by means of providing procedural air traffic control services, a procedural rating should be held and maintained.

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.

GM1 ATCO.B.010(b) Air traffic controller ratings

ASSESSMENT OF PREVIOUS COMPETENCE

The assessment of previous competence includes an assessment of the practical skills demonstrated by the person being assessed as well as an examination of the person’s knowledge and understanding.

AMC1 ATCO.B.015(a) Air traffic controller rating endorsements

AERODROME CONTROL SURVEILANCE (SUR) ENDORSEMENT PRIVILEGES

The SUR endorsement indicates that the holder has the skills to use ATS surveillance systems for the provision of aerodrome control service for the functions described in point ATS.TR.155(a) of Annex IV

to Commission Implementing Regulation (EU) 2017/3731, and in the related point (c) of AMC1 ATS.TR.155(a).

AMC1 ATCO.B.020(a) Unit endorsements

GENERAL

When aerodrome control service is provided from a 'remote tower' (defined in EASA 'Guidance Material on remote aerodrome air traffic services' — Issue 3[2]), each aerodrome for which the service is provided should constitute its own unit endorsement.

GM1 to AMC1 ATCO.B.020(a) Unit endorsements

There might be cases where, for a given aerodrome, air traffic control service is provided from a 'conventional tower' (defined in EASA 'Guidance Material on remote aerodrome air traffic services' — Issue 3) during certain time periods and from a 'remote tower' (defined in the EASA 'Guidance Material on remote aerodrome air traffic services' — Issue 3) at other times. In such cases, the unit endorsement(s) should indicate the working position(s) (conventional and/or remote tower) from which the licence holder is authorised to provide the service.

NOTE: This does not refer to contingency arrangements/contingency facilities, as the related training and use are deemed to be covered by any unit endorsement. When this is done on a temporary basis for shorter/limited time periods, e.g. during a validation or for transitional purposes, different unit endorsements for conventional and remote tower may not be considered necessary.

GM1 ATCO.B.020(c) Unit endorsements

ISSUE OF A UNIT ENDORSEMENT IN CONNECTION WITH THE ISSUE OF A TEMPORARY ON-THE-JOB TRAINING INSTRUCTOR (OJTI) AUTHORISATION

It is recognised that the completion of a unit endorsement course in accordance with the requirements set out in Section 3 of Subpart D of Part ATCO as regards the on-the-job training (OJT) phase may not be possible in cases where a new ATC unit or sector is established, a new rating or rating endorsement is established at an ATC unit, or when a temporary ATC unit reopens.

AMC1 ATCO.B.020(d) Unit endorsements

LIMITATION IN RELATION TO THE EXERCISE OF THE AERODROME CONTROL RATING PRIVILEGES

If a unit endorsement course contains operational procedures only for air control or ground control, the unit endorsement should reflect the limitation in relation to the rating privileges.

[1] Commission Implementing Regulation (EU) 2017/373 of 1 March 2017 laying down common requirements for providers of air traffic management/air navigation services and other air traffic management network functions and their oversight, repealing Regulation (EC) No 482/2008, Implementing Regulations (EU) No 1034/2011, (EU) No 1035/2011 and (EU) 2016/1377 and amending Regulation (EU) No 677/2011 (OJ L 62, 8.3.2017, p. 1).

[2] See ED Decision 2023/005/R of 30 March 2023.

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

PRACTICAL SKILLS ASSESSMENT FOR THE 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 3-month period 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 end of that defined period and the formal conclusion on declaring the licence holder competent should take place within the 3-month period preceding the unit endorsement expiry date.

GM1 ATCO.B.020(k) Unit endorsements

COMMENCEMENT OF THE 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, provided that the formal conclusion takes place after the period during which the air traffic controller's competence has been assessed.

AMC1 ATCO.B.025(a)(3) Unit competence scheme

MINIMUM NUMBER OF HOURS

The minimum number of hours should be defined for each unit endorsement associated to a rating, 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 traffic services provider.

Nevertheless, maintaining competence should be appropriately ensured for all valid unit endorsements, as well as for all sectors and/or working positions covered by a unit endorsement.

AMC1 ATCO.B.025(a)(5);(6);(9) Unit competence scheme

PROCESSES FOR ASSESSING COMPETENCE AND EXAMINING THEORETICAL KNOWLEDGE AND UNDERSTANDING, AND FOR ASSESSING PRACTICAL SKILLS ACQUIRED DURING THE REFRESHER TRAINING

(a) The practical performance and skills should be assessed in live traffic situations against performance criteria defined and updated by the air traffic services provider according to the requirement set out in point ATCO.B.025(a)(16).

(b) Theoretical knowledge and understanding should be examined.

(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.

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

AMC1 ATCO.B.025(a)(8) Unit competence scheme

DURATION AND FREQUENCY OF THE REFRESHER TRAINING

Refresher training covers standard practices and procedures, abnormal and emergency situations, and human factors. These elements may be delivered as separate modules within the period of validity of the unit endorsement. If an ATCO holds multiple unit endorsements, refresher training should ensure that subjects common to one unit endorsement may need to be complemented by the unit-specific elements required for the other unit endorsement(s).

The organisation of the training is determined by the air traffic services provider and/or the training organisation to ensure the planned subjects are covered. Accordingly, the duration may vary depending on the items being trained at a given time. The phasing of such training is likewise determined by the air traffic services provider and/or the training organisation, and the resulting frequency may therefore differ from one unit to another.

All such details should be included in the description of the refresher training and provided to the competent authority for approval.

AMC1 ATCO.B.025(a)(10) Unit competence scheme

CONVERSION TRAINING

For situations where conversion training leads to the introduction of a new unit endorsement, an assessment should be carried out by an assessor.

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

ASSESSMENTS

(a) Assessments may have one or more components. A documented process (for example, evidence guides, competence checklists and competence assessment forms) should be used to ensure a fair and objective assessment of competence.

(b) The assessment of the required competencies may be complemented by an oral interview.

(c) The assessment of the required competencies should be conducted as continuous assessment or dedicated assessment, with preference given to continuous assessment.

(1) Continuous assessment

The continuous assessment should be conducted during normal operational duties. The operational performance of the candidate should be assessed in relation to the applicable adapted competency model.

In cases where the assessor has not been able to adequately assess the air traffic controller through continuous assessment, he or she should not certify the air traffic controller's competence until a dedicated practical assessment has been conducted.

(2) Dedicated assessment

A dedicated assessment consists of a single assessment or a series of assessments.

To conduct a dedicated assessment, the assessor(s) should observe the performance of the candidate in relation to the applicable adapted competency model.

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

(3) The adapted competency model should be defined by the air traffic services provider.

(d) For those situations where a candidate'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 interview.

(e) Oral interviews should be used to test the understanding of the 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 a given ATC unit.

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

(f) Processes when failing

Notwithstanding point ATCO.B.025(a)(11), when an air traffic controller fails in one or more of the components of the assessment, he or she should not be allowed to exercise the privilege of this unit endorsement, and provisional inability in accordance with point ATCO.A.015(b) may be declared until such time when a successful competence assessment has been performed. Resitting the full competence assessment or the failed part only may be required.

(g) 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.

GM1 ATCO.B.025(a)(9) 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 the training content.

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

ORAL EXAMINATIONS

Oral examinations should be used to test the understanding of the 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 a given ATC unit.

The oral examination should give a clear indication that the air traffic controller knows not only what he or she should be doing, but why he or 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)(10) Unit competence scheme

EXAMINATION OF THEORETICAL KNOWLEDGE AND ASSESSMENT OF PRACTICAL SKILLS ACQUIRED 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 the training content.

AMC1 ATCO.B.025(b) Unit competence scheme

PROCESS FOR RECORDING HOURS

Air traffic services providers should implement a process to ensure that, for each licence holder exercising the privileges of his or her unit endorsement, the hours worked in sectors, group of sectors and/or working positions within the ATC unit are recorded accurately. The process may use an automated or a manual recording system. In cases where a manual recording system is used, the air

traffic services provider should verify that the roster entries reconcile with the hours reported to the competent authority.

AMC1 ATCO.B.040 Testing of language proficiency

GENERAL

(a) The language proficiency testing 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 testing should determine the candidate's ability to communicate effectively using visual and non-visual means in both routine and non-routine situations.

AMC2 ATCO.B.040 Testing of language proficiency

TESTING

(a) The testing 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 testing is not conducted in a face-to-face situation, it should use appropriate technologies for testing the candidate's abilities in listening and speaking, and for enabling interactions.

(d) In the case of revalidation of the language proficiency endorsement, the testing 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 testing 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 Testing of language proficiency

PERSONS RESPONSIBLE FOR LANGUAGE PROFICIENCY TESTING

The persons responsible for language proficiency testing should:

(a) be suitably trained and qualified;

(b) undergo regular refresher training on language testing assessment skills; and

(c) not conduct language testing proficiency testing whenever their objectivity may be affected.

AMC4 ATCO.B.040 Testing of language proficiency

CRITERIA FOR THE ACCEPTABILITY OF LANGUAGE TESTING BODIES

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

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

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

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

(1) the test objectives;

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

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

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

(5) the procedures to ensure that language tests are standardised within the language testing body and in the ATC community;

(6) the testing procedures and responsibilities, such as:

— preparation of individual test;

— administration: location(s), identity check and invigilation, testing 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.

(7) The testing 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 Testing of language proficiency

PERSONS RESPONSIBLE FOR LANGUAGE PROFICIENCY TESTING

The persons responsible for language proficiency testing should be:

(a) either aviation specialists (e.g. current or former air traffic controllers) or language specialists who have received aviation-related training; the preferred approach for a test would be to form a team consisting of an operational expert and a language specialist;

(b) trained in the requirements specific to the language proficiency testing, and test and interlocution techniques.

GM2 ATCO.B.040 Testing 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).

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

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

THEORETICAL INSTRUCTORS' INSTRUCTIONAL SKILLS

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

(a) the lesson objectives are defined and communicated;

(b) subject questions are fully answered;

(c) teaching aids and, where applicable, management of technical platforms for remote learning (hardware, software) are used appropriately;

(d) participants are engaged in the learning process, and remote online facilitation techniques (e.g. visual contact through cameras, use of polls, managing talk overlaps, etc.) are used when making use of technical platforms;

(e) the language is unambiguous;

(f) the lesson is correctly summarised; and

(g) the lesson objectives are fulfilled.

AMC1 ATCO.C.020(b) Validity of the on-the-job training instructor endorsement

REFRESHER TRAINING

For the revalidation of on-the-job-training instructor endorsement, refresher training should be undertaken during the last year of the validity of the endorsement.

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.

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.

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 point ATCO.C.010(c)(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 traffic services provider;

(b) the continuity of the existing services is compromised due to the unavailability of personnel as a consequence of a change in the air traffic services provider at an ATC unit;

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

(d) re-opening of a temporary ATC unit.

AMC1 ATCO.C.030(d)(2) Synthetic training device instructor (STDI) privileges

DEMONSTRATION OF KNOWLEDGE OF CURRENT OPERATIONAL PRACTICES

For STDIs that hold an ATCO licence with a valid unit endorsement, knowledge of current operational practices should be demonstrated during the refresher training in accordance with the unit competence scheme. For STDIs that do not hold a valid unit endorsement, knowledge of current operational practices should be demonstrated by other means.

AMC1 ATCO.C.040(b) Validity of synthetic training device instructor (STDI) endorsement

REFRESHER TRAINING

For the revalidation of the STDI endorsement, refresher training should be undertaken during the last year of the validity of the endorsement.

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)(1) Synthetic training device instructor (STDI) privileges

SHORTENING OF THE RATING EXPERIENCE REQUIREMENT FOR STDIs

When assessing a training organisation's request for the shortening of the rating experience requirement for STDIs, competent authorities should take into account the complexity of the training expected to be delivered by the potential STDI and the impact on the continuity of the provision of training.

GM1 ATCO.C.030(c)(3) Synthetic training device instructor (STDI) privileges

PROVISION OF TRAINING FOR SPECIFIC AND SELECTED OPERATIONAL TASKS

Some of the skills required 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 the tasks which are normally associated with a fully operational environment, may be provided by an STDI that has at least 2 years of experience in a rating that requires similar skills.

GM1 ATCO.C.035(a) Application for synthetic training device instructor (STDI) endorsement

SHORTENING OF THE LICENCE EXPERIENCE REQUIREMENT FOR STDIs

When assessing a training organisation's request for the shortening of the licence experience requirement for STDIs, competent authorities should take into account the complexity of the training expected to be delivered by the potential STDI and the impact on the continuity of the provision of training.

GM1 ATCO.C.040(c)(1) Validity of synthetic training device instructor (STDI) endorsement

DEMONSTRATION OF KNOWLEDGE OF CURRENT OPERATIONAL PRACTICES

For STDIs that do not hold a valid unit endorsement, knowledge of current operational practices may be demonstrated by various means which are agreed between the training organisation and the competent authority, such as:

(a) participation in refresher training courses;

(b) practising ATCO skills on synthetic training devices; or

(c) observing real-time ATC provision at operational units in order to familiarise themselves with new operational techniques, controller tools, and airspace modernisation.

SECTION 2 – ASSESSORS

AMC1 ATCO.C.045(b)(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.

GM1 ATCO.C.045(b)(2) Assessor privileges

DEMONSTRATION OF KNOWLEDGE OF CURRENT OPERATIONAL PRACTICES

For assessors that do not hold a valid unit endorsement, knowledge of current operational practices may be demonstrated through various means that are agreed between the training organisation and the competent authority, such as:

(a) participation in refresher training courses;

(b) practising ATCO skills on synthetic training devices; or

(c) observing real-time ATC provision at operational units in order to familiarise themselves with new operational techniques, controller tools and airspace modernisation.

AMC1 ATCO.C.060(b) Validity of assessor endorsement

REFRESHER TRAINING

For the revalidation of the assessor endorsement, refresher training should be undertaken during the last year of the validity of the endorsement.

GM1 ATCO.C.060(b);(c)(1) Validity of assessor endorsement

DEMONSTRATION OF KNOWLEDGE OF CURRENT OPERATIONAL PRACTICES

For assessors that do not hold a valid unit endorsement, knowledge of current operational practices may be demonstrated through various means that are agreed between the training organisation and the competent authority, such as:

(a) participation in refresher training courses;

(b) practising ATCO skills on synthetic training devices; or

(c) observing real-time ATC provision at operational units in order to familiarise themselves with new operational techniques, controller tools, and airspace modernisation.

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 point ATCO.C.045(c)(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 a new sector for the air traffic services provider;

(b) the continuity of the existing services is compromised due to the unavailability of personnel as a consequence of a change in the air traffic services provider at an 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

GM1 ATCO.D.003 Principles of competency-based training and assessment (CBTA)

TRAINING PLANS AND TRAINING COURSES

Further information may be found in ICAO Doc 9868 'Procedures for Air Navigation Services — Training', third edition, 2020, and in ICAO Doc 10056 'Manual on Air Traffic Controller Competency-based Training and Assessment', Volume I — ATC, second edition, 2022.

GM1 ATCO.D.003(b)(2) Principles of competency-based training and assessment (CBTA)

CONSISTENCY BETWEEN INSTRUCTOR AND ASSESSOR ASSESSMENT

Consistency across instructors and assessors refers to the degree to which their scores are consistent and stable when assessing the same performance. It is achieved when instructors and assessors apply similar judgment, as well as the same criteria and standards, when assessing performance. The adapted competency model (ACM) provides the performance criteria, including the standard, for the specific environment. Consistency across instructors and assessors is a prerequisite for reliable training progress and assessment data; it safeguards the accuracy of assessment outputs and enables the assessment data to be interpreted meaningfully.

Processes to ensure consistency in this regard include the conduct of regular 'calibration' sessions to ensure that personnel conducting assessments interpret the performance criteria (observable behaviours (OBs), conditions and competency standard) and pass/fail decisions consistently. Examples on how to do this include live assessments, simulations, or using video/recorded material of assessments that assessors can use to compare their evaluations and judgements, discuss their evidence that supports their judgement and adjust their interpretations to align with each other and the baseline judgement considered to be the 'correct' assessment. Discussions can further serve to identify why certain judgements differ. Disagreements can be solved through expert consensus and, if available, reference to 'model' scores.

There are two measures that may be useful for determining whether consistency has been achieved. This is relevant when all instructors and assessors have evaluated the same performance.

Reliability measures the degree of agreement across all instructors and assessors who observe the same performance. If there is 100 % reliability, the candidate would receive the same score for each competence from every instructor and assessor. In addition, the pass/fail decision would be the same for all instructors and assessors.

There is, however, a second measure that is equally important and may be used provided the performance has been recorded and a 'group of experts' (usually senior instructors/assessors) have

had the opportunity to determine the most accurate grading for that performance. Validity establishes the expected scores for a particular performance. If there is 100 % validity, the candidate would receive the same score for each competence from every instructor/assessor, and they would correspond with the scores determined by the group of experts.

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.

SECTION 2 – INITIAL TRAINING REQUIREMENTS

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 are 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 topic/subtopic which deals with the knowledge and skills needed to accomplish the related subject.

(3) Subjects are contained in point ATCO.D.010, and are repeated in:

— AMC1 ATCO.D.010(a)(1) Composition of initial training — BASIC TRAINING — TOPICS, SUBTOPICS AND TRAINING OBJECTIVES;

— AMC1 ATCO.D.010(a)(2)(i) Composition of initial training — AERODROME CONTROL (ADC) RATING TRAINING — TOPICS, SUBTOPICS AND TRAINING OBJECTIVES;

— AMC1 ATCO.D.010(a)(2)(ii) Composition of initial training — APPROACH CONTROL PROCEDURAL (APP) RATING TRAINING — TOPICS, SUBTOPICS AND TRAINING OBJECTIVES;

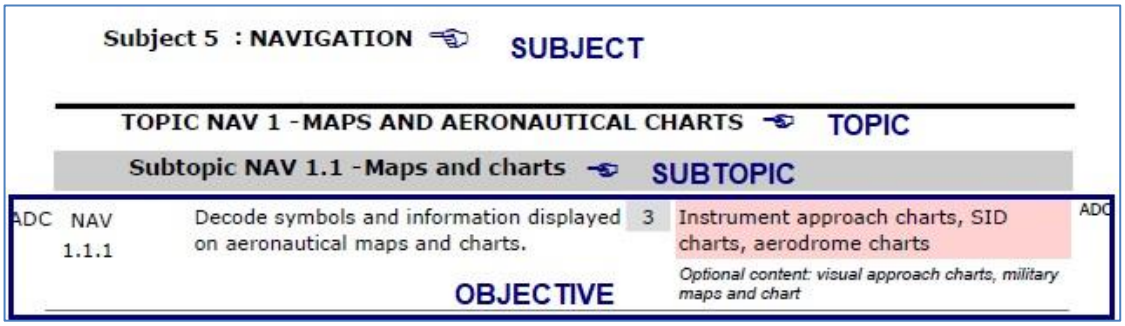
— AMC1 ATCO.D.010(a)(2)(iii) Composition of initial training — AREA CONTROL PROCEDURAL (ACP) RATING TRAINING — TOPICS, SUBTOPICS AND TRAINING OBJECTIVES;

— AMC1 ATCO.D.010(a)(2)(iv) Composition of initial training — APPROACH CONTROL SURVEILLANCE (APS) RATING TRAINING — TOPICS, SUBTOPICS AND TRAINING OBJECTIVES;

— AMC1 ATCO.D.010(a)(2)(v) Composition of initial training — AREA CONTROL SURVEILLANCE (ACS) RATING TRAINING — TOPICS, SUBTOPICS AND TRAINING OBJECTIVES

in order to provide the reader with a comprehensive and unique reference document for the basic training and for each rating training course.

Topics, subtopics and training objectives are included in, and form an integral part of, each of the aforementioned AMC.



(b) 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 the objectives

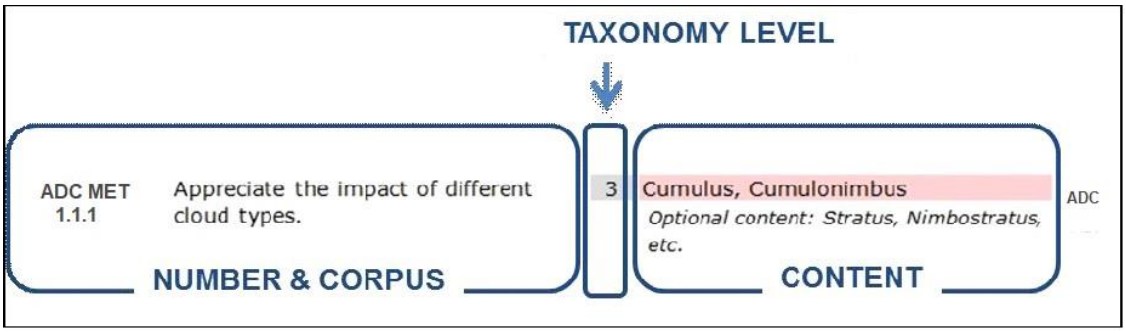
(a) An objective consists of three elements:

(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. Explicit content is written in the content field, while 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 is provided to help training designers develop their training material and may suggest possible reference documents that could be used and/or elaborate on the content with specific examples. With or without explicit content, the objective

needs to be covered since the implementation is implied in its corpus (text of the objective) and associated context (Subtopic/Topic/Subject/ Rating).



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 training providers identify potential commonalities between the various syllabi. As a second step, training providers must determine, on the level of local implementation, whether the objective is to be regarded as repeated or common.

Subtopic ATM 1.2 - Flight information service (FIS)				
ADC ATM 1.2.1	Describe the information that shall be passed to aircraft by an aerodrome controller.	2	Regulation (EU) 2017/373 *Optional content: ICAO Doc 4444*	ADC
ADC ATM 1.2.2	Provide FIS.	4	Regulation (EU) 2017/373, Regulation (EU) No 923/2012 *Optional content: national documents*	ALL
ADC ATM 1.2.3	Issue appropriate information.	3	Regulation (EU) 2017/373, essential local traffic, traffic information	ADC
ADC ATM 1.2.4	Appreciate the use of ATIS in the provision of flight information service.	3	Regulation (EU) No 923/2012	ALL

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 that is 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 acquires an additional rating, that learner 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 different types of jet engines.
Name	Give the name of objects or procedures.	Name the competent authorities responsible for ATCO licensing and ANSP oversight.
Quote	Repeat what is written or said.	Quote the ICAO definition of ATC service.
Recognise	To know what it is because you have 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 radio navigation techniques based on ground-based systems.
Consider	To think carefully about it.	Consider how the evolution of a situation may have an impact on safety.
Demonstrate	Describe and explain; logically or mathematically prove the truth of a statement.	Demonstrate the importance of good communication in ATC.
Describe	Say what it is like or what happened.	Describe the methods by which ICAO notifies and implements legislation.

L2 Verb	Definition	Example
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 deciding.	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 need for coordination (the learner says that the coordination will be done and with whom; the learner 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 all relevant documentation before managing traffic. Check availability of information.
Choose	Select out of number, decide to do one thing rather than another.	Choose appropriate levels. Choose the appropriate separation methods.
Collect	Assemble, accumulate, bring or come together.	Collect appropriate information relevant to the situation.
Conduct	Organise and carry out.	Conduct level changes.
Confirm	Establish more firmly, corroborate.	Confirm sequence order.
Decode	Turn into ordinary writing, decipher.	Decode the content of weather reports and forecasts.
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 the heading for a new track and the distance to the next way point.
Execute	Perform action.	Execute selected plan in a timely manner.
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 potential or actual abnormal and emergency situations. Identify aircraft.

L3 Verb	Definition	Example
Inform	Tell, give facts or information.	Inform the supervisor of local factors affecting the ATS system capacity and air traffic flow management.
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 information concerning the position of conflicting traffic.
Maintain	Cause or enable to continue.	Maintain situational awareness by monitoring traffic
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 the technical integrity of the controller working position.
Notify	Make known, announce, report.	Notify runway in use.
Obtain	Acquire easily without research.	Obtain meteorological information.
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.
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 that the settings of the working position are appropriate.

(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 according to altimetry data.
Analyse	Examine minutely the constitution of.	Analyse examples of pilot–controller communication for effectiveness. Analyse the information provided by the ATS surveillance system.
Assign	Designate or set an element.	Assign codes.
Coordinate	Negotiate with others in order to work together effectively.	Coordinate runway in use. Coordinate when providing 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 conflicts in time for appropriate resolution.
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 a change to operational procedures.
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 vectoring. 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 against personal capacity.
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 radiotelephony, 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 ABBREVIATIONS

For the purposes of:

- AMC1 ATCO.D.010(a)(1) Composition of initial training — BASIC TRAINING — TOPICS, SUBTOPICS AND TRAINING OBJECTIVES;
- AMC1 ATCO.D.010(a)(2)(i) Composition of initial training — AERODROME CONTROL (ADC) RATING TRAINING — TOPICS, SUBTOPICS AND TRAINING OBJECTIVES;
- AMC1 ATCO.D.010(a)(2)(ii) Composition of initial training — APPROACH CONTROL PROCEDURAL (APP) RATING TRAINING — TOPICS, SUBTOPICS AND TRAINING OBJECTIVES;
- AMC1 ATCO.D.010(a)(2)(iii) Composition of initial training — AREA CONTROL PROCEDURAL (ACP) RATING TRAINING — TOPICS, SUBTOPICS AND TRAINING OBJECTIVES;
- AMC1 ATCO.D.010(a)(2)(iv) Composition of initial training — APPROACH CONTROL SURVEILLANCE (APS) RATING TRAINING — TOPICS, SUBTOPICS AND TRAINING OBJECTIVES
- AMC1 ATCO.D.010(a)(2)(v) Composition of initial training — AREA CONTROL SURVEILLANCE (ACS) RATING TRAINING — TOPICS, SUBTOPICS AND TRAINING OBJECTIVES

the following abbreviations apply:

Abbreviation	Stands for / Means
A-RNP	Advanced Required Navigation Performance
A/B (Type)	A and B type approaches (classifications)
ABAS	Aircraft-based Augmentation System
ABES	Abnormal and Emergency Situations (Subject)
ACARS	Aircraft Communications Addressing and Reporting System
ACAS	Airborne Collision Avoidance System
ACC	Area Control Centre
ACFTB	Aircraft — Basic Training (subject)
ACFT	Aircraft (subject)
ACN	Aircraft Classification Number
ACP	Area Control Procedural Rating
ACS	Area Control Surveillance Rating
ADF	Automatic Direction-Finding System
ADC	Aerodrome Control
ADI	Aerodrome Control Instrument
ADS	Automatic Dependent Surveillance
ADS-B	Automatic Dependent Surveillance — Broadcast
ADS-C	Automatic Dependent Surveillance — Contract
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
AMAN	Arrival Manager
AMC	Acceptable Means of Compliance
ANS	Air Navigation Services
AP/FD	Autopilot/Flight Director
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
ATMB	Air Traffic Management — Basic Training (subject)

ATS	Air Traffic Services
ATZ	Aerodrome Traffic Zone
AVASI	Advanced Visual Approach Slope Indicator
Beidou	Chinese navigation satellite system
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
CCO	Continuous Climb Operations
CDO	Continuous Descent Operations
CDR	Conditional Route
CEM	Collaborative Environmental Management
CISM	Critical Incident Stress Management
CPDLC	Controller-Pilot Data Link Communications
CPL	Current Flight Plan
CWP	Controller Working Position
DA	Decision Altitude
DFTI	Distance from Touchdown Indicator
DH	Decision Height
DMAN	Departure Manager
DME	Distance-Measuring Equipment
Doc	Document
EASA	European Union Aviation Safety Agency
EAT	Expected Approach Time
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 Navigation Overlay Service
EGPWS	Enhanced Ground Proximity Warning System
EQPS	Equipment and Systems (subject)
EQPSB	Equipment and Systems — Basic Training (subject)
ETF	European Transport Workers' Federation

EU	European Union
EU ETS	European Union Emissions Trading Scheme
EUROCONTROL	European Organisation for the Safety of Air Navigation
FA	Fix to Altitude
FAB	Functional Airspace Block
FAF	Final Approach Fix
FAP	Final Approach Point
FDPS	Flight Data Processing System
FIR	Flight Information Region
FIS	Flight Information Service
FMS	Flight Management System
FPB	Flight Progress Board
FPL	Flight Plan or Filed Flight Plan
FRA	Free-Route Airspace
FRT	Fixed Radius Transition
FTE	Flight Technical Error
FUA	Flexible Use of Airspace
Galileo	European satellite navigation system
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
HF	High Frequency
HFACS	Human Factors Analysis & Classification System
HUM	Human Factors (subject)
HUMB	Human Factors — Basic Training (subject)
IACA	International Air Carrier Association
IAF	Initial Approach Fix
IAOPA	International Council of Aircraft Owner and Pilot Associations
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
IF	Intermediate Approach Fix
IFALPA	International Federation of Airline Pilots' Associations

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)
INTRB	Introduction to the course — Basic Training (subject)
IRS	Inertial Reference System
IRVR	Instrument Runway Visual Range
ISA	International Standard Atmosphere
ITU	International Telecommunications Union
LAM	Local Area Multilateration
LAW	Aviation Law (subject)
LAWB	Aviation Law — Basic Training (subject)
LDA	Landing Distance Available
LOA	Letter of Agreement
LOC	Localiser
LOPs	Local Operating Procedures
LPV	Localiser Performance with Vertical guidance
MAPt	Missed Approach Point
MCMF	Multi-Constellation, Multi-Frequency
MDA	Minimum Descent Altitude
MDH	Minimum Descent Height
MET	Meteorology
METAR	Meteorological Aviation Routine Weather Report
METB	Meteorology — Basic Training (subject)
MLAT	Multilateration
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
NAVB	Navigation — Basic Training (subject)
NDB	Non-Directional Beacon
No.	Number
NOTAM	Notice to Airmen
NPA	Non-Precision Approach
NSE	Navigation System Error
OCA	Obstacle Clearance Altitude
OCH	Obstacle Clearance Height
OJT	On-the-Job Training
OLDI	On-Line Data Interchange
PA	Precision Approach
PANS	Procedures for Air Navigation Services
PAPI	Precision Approach Path Indicator
PAR	Precision Approach Radar
PBN	Performance-Based Navigation
PCN	Pavement Classification Number
PCP	Pilot Common Project
PDE	Path Definition Error
PEAR (model)	People who do the job/Environment in which they work/Actions they perform/Resources necessary to complete the job
PEN	Professional Environment (subject)
PENB	Professional Environment — Basic Training (subject)
PSR	Primary Surveillance Radar
PTP	Part-Time Practice
QDM	Inbound magnetic bearing to the station
QDR	Outbound magnetic bearing from the station
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
RA	Resolution Advisory (TCAS)
RAIM	Receiver Autonomous Integrity Monitoring
RCC	Rescue Coordination Centre

RF	Radius to Fix
RNAV	Area Navigation
RNP	Required Navigation Performance
RNP APCH	Required Navigation Performance Approach
RNP AR APCH	Required Navigation Performance Authorisation Required Approach
RNP (AR) DEP	Required Navigation Performance Authorisation Required Departure
ROC	Rate of Climb
RPAS	Remotely Piloted Aircraft System
RTF	Radiotelephony
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
SDPS	Surveillance Data Processing System
SELCAL	Selective Calling
SES	Single European Sky
SHELL (model)	Software, Hardware, Environment, Live ware, Live ware Model
SIB	Safety Information Bulletin
SID	Standard Instrument Departure (Route)
SIGMET	Significant Meteorological Information
SMAN	Surface Management
SMR	Surface Movement Radar
SNOWTAM	NOTAM on SNOW conditions
SOPs	Standard Operating Procedures
SPECI	Aviation Selected Special Weather Report
SSR	Secondary Surveillance Radar
STAR	Standard Instrument Arrival (Route)
STCA	Short-Term Conflict Alert
SVFR	Special Visual Flight Rules
TA	Traffic Alert (TCAS)
TACAN	UHF Tactical Air Navigation Aid
TAF	Terminal Area (Aerodrome) Forecast
TAWS	Terrain Awareness and Warning System

TBO	Trajectory-Based Operations
TCAC	Tropical Cyclone Advisory Centre
TCAS	Traffic Alert and Collision Avoidance System
TODA	Take-Off Distance Available
TORA	Take-Off Run Available
TRA	Temporary Reserved Airspace or Temporary Reserved Area
TRM	Team Resource Management
TSA	Temporary Segregated Area
TSE	Total System Error
TWR	Tower Control Unit (Aerodrome Control Tower)
UAS	Unmanned Aircraft System
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
WAM	Wide Area Multilateration
WGS-84	World Geodetic System 84
WMO	World Meteorological Organization

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

BASIC TRAINING — TOPICS, SUBTOPICS 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 topics, subtopics and training objectives that are associated with the subjects contained in point ATCO.D.010(a)(1) Basic training.

(c) Subjects from point ATCO.D.010(a)(1) are repeated in this AMC for the convenience of the reader and do not form part of it.

INTRODUCTION TO THE COURSE

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 how the course is administered.	1	
Subtopic INTRB 1.3 — Study material and training documentation			
BASIC INTRB 1.3.1	Use appropriate documents 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, methodology and organisation			
BASIC INTRB 2.1.1	State the different training methods used during the course.	1	Theoretical training, practical training, self-study, types of training events
BASIC INTRB 2.1.2	State the subjects covered by 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*
BASIC INTRB 2.1.5	Appreciate appropriate learning techniques.	3	How the influence of interactive techniques can lead to improved learning
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	Teamwork in theoretical and practical training
Subtopic INTRB 2.3 — Assessment process			

TOPIC INTRB 2 — INTRODUCTION TO THE ATC TRAINING COURSE			
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 1: AVIATION LAW

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	Describe the impact key international and national organisations have on ATC and their interaction with each other.	2	ICAO, EASA, EUROCONTROL, national organisations

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 function of EUROCONTROL.	2	Network Manager function
BASIC LAWB 2.2.2	Explain the purpose and function 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, WMO*
Subtopic LAWB 2.3 — Aviation associations			

TOPIC LAWB 2 — INTERNATIONAL ORGANISATIONS			
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 — National authorities			
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	Recognise how legislation is implemented, notified and updated.	1	
Subtopic LAWB 3.3 — Competent authority			
BASIC LAWB 3.3.1	Name the competent authorities responsible for ATCO licensing and ANSP oversight.	1	
BASIC LAWB 3.3.2	State how the competent authority carries out its safety oversight responsibilities.	1	
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 (EU) 2018/1139[1] *Optional content: Regulation (EU) 2017/373[2], national regulations*
BASIC LAWB 4.1.2	Describe the general principles of safety regulation.	2	*Optional content: Regulation (EU) 2017/373, national regulations*
BASIC LAWB 4.1.3	Explain the impact of safety regulation on the controller.	2	*Optional content: Regulation (EU) 2015/340[3], Regulation (EU) 2017/373*
Subtopic LAWB 4.2 — Safety management system			

[1] Regulation (EU) 2018/1139 of the European Parliament and of the Council of 4 July 2018 on common rules in the field of civil aviation and establishing a European Union Aviation Safety Agency, and amending Regulations (EC) No 2111/2005, (EC) No 1008/2008, (EU) No 996/2010, (EU) No 376/2014 and Directives 2014/30/EU and 2014/53/EU of the European Parliament and of the Council, and repealing Regulations (EC) No 552/2004 and (EC) No 216/2008 of the European Parliament and of the Council and Council Regulation (EEC) No 3922/91 (OJ L 212, 22.8.2018, p. 1).

[2] Commission Implementing Regulation (EU) 2017/373 of 1 March 2017 laying down common requirements for providers of air traffic management/air navigation services and other air traffic management network functions and their oversight, repealing Regulation (EC) No 482/2008, Implementing Regulations (EU) No 1034/2011, (EU) No 1035/2011 and (EU) 2016/1377 and amending Regulation (EU) No 677/2011 (OJ L 62, 8.3.2017, p. 1).

[3] 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).

TOPIC LAWB 4 — ATS SAFETY MANAGEMENT			
BASIC LAWB 4.2.1	Explain the regulatory requirements for safety management systems in ATM.	2	Regulation (EU) 2017/373
BASIC LAWB 4.2.2	Explain the principles of safety management systems.	2	Regulation (EU) 2017/373
BASIC LAWB 4.2.3	Describe the safety assessment methodology.	2	Regulation (EU) 2017/373 *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	List the units of measurement used in aviation.	1	Council Directive 80/181/EEC on units of measurement[1], ICAO Annex 5
Subtopic LAWB 5.2 — ATCO licensing/certification			
BASIC LAWB 5.2.1	Explain the ATCO licensing/certification process.	2	Regulation (EU) 2015/340 , 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
Subtopic LAWB 5.3 — Overview of ANS			
BASIC LAWB 5.3.1	Differentiate between ANS.	2	Regulation (EU) 2018/1139, Regulation (EC) No 549/2004[2]
Subtopic LAWB 5.4 — Overview of ATS			
BASIC LAWB 5.4.1	State the considerations which determine the need for ATS.	1	Regulation (EU) 2017/373
BASIC LAWB 5.4.2	Differentiate between ATS.	2	ATCS, ADVS, FIS, ALRS
BASIC LAWB 5.4.3	Explain the objectives of ATS.	2	Regulation (EU) No 923/2012[3]
Subtopic LAWB 5.5 — Overview of Aeronautical Information Management (AIM)			

[1] 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).

[2] 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).

[3] 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).

TOPIC LAWB 5 — RULES AND REGULATIONS			
BASIC LAWB 5.5.1	Describe the means by which aeronautical information is notified, updated and disseminated.	2	Regulation (EU) 2017/373 *Optional content: AIS, integrated aeronautical information package (AIPs, AIRAC, SUPs, AICs, NOTAMs), ICAO Annex 15*
BASIC LAWB 5.5.2	Recognise the information contained in the different parts of the AIP.	1	
Subtopic LAWB 5.6 — Rules of the air			
BASIC LAWB 5.6.1	Explain the rules of the air.	2	Regulation (EU) No 923/2012 flight over the high seas, applicability and compliance, general rules and collision avoidance
BASIC LAWB 5.6.2	State the published differences with ICAO.	1	Regulation (EU) No 923/2012 *Optional content: Supplements to ICAO Annex 2 and ICAO Annex 11*
BASIC LAWB 5.6.3	Appreciate the influence of relevant flight rules on ATC.	3	General flight rules, instrument flight rules, visual flight rules
BASIC LAWB 5.6.4	Appreciate the differences between flying in accordance with VFR, special VFR and IFR in VMC and IMC.	3	Regulation (EU) No 923/2012
Subtopic LAWB 5.7 — Airspace and ATS routes			
BASIC LAWB 5.7.1	Explain airspace classification.	2	Regulation (EU) No 923/2012
BASIC LAWB 5.7.2	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 5.7.3	Differentiate between the different types of ATS routes.	2	Airway, arrival route, departure route, advisory route, controlled route, uncontrolled route, etc.
BASIC LAWB 5.7.4	Decode information from aeronautical charts.	3	
Subtopic LAWB 5.8 — Flight plan			
BASIC LAWB 5.8.1	Explain the functions of a flight plan.	2	Regulation (EU) No 923/2012, ICAO Doc 4444
BASIC LAWB 5.8.2	Explain the different types of flight plans and associated update messages.	2	Regulation (EU) No 923/2012, ICAO Doc 4444
BASIC LAWB 5.8.3	Explain the pilot's responsibilities in relation to adherence to flight plan.	2	Inadvertent changes, intended changes, position reporting
BASIC LAWB 5.8.4	Describe flight plan submission and distribution processes.	2	Regulation (EU) No 923/2012
Subtopic LAWB 5.9 — Aerodromes			

TOPIC LAWB 5 — RULES AND REGULATIONS			
BASIC LAWB 5.9.1	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 5.9.2	Explain the numbering system and orientation of runways.	2	Regulation (EU) No 139/20141
BASIC LAWB 5.9.3	Differentiate between different types of aerodromes.	2	Controlled, uncontrolled *Optional content: military, international, regional*
BASIC LAWB 5.9.4	Describe designated positions in the traffic circuit.	2	
BASIC LAWB 5.9.5	List the factors affecting the selection of runway in use.	1	
Subtopic LAWB 5.10 — Holding procedures for IFR flights			
BASIC LAWB 5.10.1	Describe the purpose of holding.	2	Traffic management, weather, pilot request, Regulation (EU) 2017/373, ICAO Doc 8168 *Optional content: ICAO Doc 4444*
BASIC LAWB 5.10.2	Describe the types of holding patterns.	2	Published, non-published
BASIC LAWB 5. 10.3	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 5.10.4	Describe the factors affecting the holding pattern.	2	Effect of speed, effect of level used, effect of navigation aid in use, turbulence
Subtopic LAWB 5.11 — Holding procedures for VFR flights			
BASIC LAWB 5.11.1	Describe VFR holding.	2	

SUBJECT 2: AIR TRAFFIC MANAGEMENT

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			

[1] 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).

TOPIC ATMB 1 — AIR TRAFFIC MANAGEMENT			
BASIC ATMB 1.2.1	Define ATC service.	1	Regulation (EU) No 923/2012
BASIC ATMB 1.2.2	Explain the division of ATC service.	2	Regulation (EC) No 549/2004, Regulation (EU) 2017/373
BASIC ATMB 1.2.3	Explain the responsibility for the provision of ATC service.	2	Regulation (EU) 2017/373
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 FIS.	2	Regulation (EU) No 923/2012
BASIC ATMB 1.3.3	Explain the responsibility for the provision of FIS.	2	Regulation (EU) No 923/2012, Regulation (EU) 2017/373
BASIC ATMB 1.3.4	State the methods of transmitting information.	1	RTF, data link, ATIS, VOLMET
BASIC ATMB 1.3.5	List the content of ATIS and VOLMET.	1	Regulation (EU) No 923/2012, Regulation (EU) 2017/373 *Optional content: meteorological data obtained by data link, ICAO Annex 3*
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 (ALRS)			
BASIC ATMB 1.4.1	Define ALRS.	1	Regulation (EU) No 923/2012
BASIC ATMB 1.4.2	Describe the scope of ALRS.	2	Regulation (EU) No 923/2012, ICAO Annex 11
BASIC ATMB 1.4.3	Explain the responsibility for the provision of ALRS.	2	Regulation (EU) 2017/373, Regulation (EU) No 923/2012
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

TOPIC ATMB 1 — AIR TRAFFIC MANAGEMENT			
BASIC ATMB 1.4.6	Describe the cooperation between units providing 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	State the scope of air traffic advisory service.	1	Regulation (EU) No 923/2012, Regulation (EU) 2017/373
BASIC ATMB 1.5.3	Explain the responsibility for the provision of air traffic advisory service.	2	Regulation (EU) No 923/2012, Regulation (EU) 2017/373
Subtopic ATMB 1.6 — ATS system capacity and air traffic flow management (ATFM)			
BASIC ATMB 1.6.1	Define ATFM.	1	Regulation (EC) No 549/2004
BASIC ATMB 1.6.2	Describe the scope of air traffic flow and capacity management (ATFCM).	2	Regulation (EU) No 255/2010, Regulation (EU) 2019/123, ICAO Doc 4444, EUROCONTROL ATFCM Users Manual
BASIC ATMB 1.6.3	Explain the responsibility for the provision of ATFCM.	2	Regulation (EU) No 255/2010, Regulation (EU) 2019/123, ICAO Doc 4444, EUROCONTROL ATFCM Users Manual
BASIC ATMB 1.6.4	List the methods of providing ATFCM.	1	Regulation (EU) No 255/2010, Regulation (EU) 2019/123, 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*[1]
BASIC ATMB 1.7.2	Describe the scope of ASM.	2	Regulation (EC) No 2150/2005, Regulation (EU) 2019/123 *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, Regulation (EU) 2019/123 *Optional content: EUROCONTROL Specification for the application of the FUA*
BASIC ATMB 1.7.4	State the methods of managing airspace.	1	Regulation (EC) No 2150/2005, Regulation (EU) 2019/123 *Optional content: Flexible use of airspace, airspace design, CDRs, TSAs*

[1] 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	Regulation (EU) No 923/2012, ICAO Doc 4444 *Optional content: 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	Regulation (EU) No 923/2012 *Optional content: national documents*
BASIC ATMB 3.1.3	Perform communication effectively.	3	Regulation (EU) No 923/2012, 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	Regulation (EU) No 923/2012 *Optional content: ICAO Doc 4444, national documents*
Subtopic ATMB 4.2 — ATC instructions			
BASIC ATMB 4.2.1	Define ATC Instructions.	1	Regulation (EU) No 923/2012

TOPIC ATMB 4 — ATC CLEARANCES AND ATC INSTRUCTIONS			
BASIC ATMB 4.2.2	Describe the contents of an ATC instruction.	2	Regulation (EU) No 923/2012, ICAO Doc 4444
BASIC ATMB 4.2.3	Issue appropriate ATC instructions.	3	Regulation (EU) No 923/2012, 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	Regulation (EU) No 923/2012, 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, Regulation (EU) No 923/2012, local procedures, letters of agreement*
BASIC ATMB 5.2.2	Differentiate between transfer of control and transfer of communication procedures.	2	Regulation (EU) 2017/373
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			

TOPIC ATMB 7 — SEPARATIONS			
BASIC ATMB 7.1.1	State the vertical separation standards.	1	Regulation (EU) No 923/2012, Regulation (EU) 2017/373 *Optional content: ICAO Doc 4444*
BASIC ATMB 7.1.2	Explain the vertical separation procedures.	2	Regulation (EU) No 923/2012, Regulation (EU) 2017/373 *Optional content: ICAO Doc 4444*
Subtopic ATMB 7.2 — Horizontal separation and procedures			
BASIC ATMB 7.2.1	State the principles of longitudinal separation procedures based on time and distance.	1	Regulation (EU) 2017/373, Regulation (EU) No 923/2012 *Optional content: ICAO Doc 4444*
BASIC ATMB 7.2.2	State the principles of lateral separation procedures.	1	Regulation (EU) 2017/373, Regulation (EU) No 923/2012 *Optional content: 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	Regulation (EU) 2017/373, Regulation (EU) No 923/2012 *Optional content: ICAO Doc 4444*
BASIC ATMB 7.4.3	Define essential local traffic.	1	Regulation (EU) 2017/373
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	Regulation (EU) 2017/373 *Optional content: ICAO Doc 4444*
BASIC ATMB 7.5.3	Explain the methods and procedures for establishing identification.	2	Regulation (EU) 2017/373 *Optional content: ICAO Doc 4444*
Subtopic ATMB 7.6 — Wake turbulence separation			
BASIC ATMB 7.6.1	Explain wake turbulence separation.	2	Regulation (EU) No 923/2012, Regulation (EU) 2017/373 *Optional content: EASA SIB 2017-10 'En-route Wake Turbulence Encounters'*

TOPIC ATMB 8 — AIRBORNE AND GROUND-BASED SAFETY NETS
Subtopic ATMB 8.1 — Airborne safety nets

TOPIC ATMB 8 — AIRBORNE AND GROUND-BASED SAFETY NETS			
BASIC ATMB 8.1.1	State the European Union requirement for carriage of airborne collision avoidance system.	1	Regulation (EU) No 1332/2011[1]
BASIC ATMB 8.1.2	Explain the main characteristics of airborne safety nets 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 *Optional content: Skybrary Safety Nets*
BASIC ATMB 8.1.4	List the actions of the pilot in case of TA and RA.	1	Regulation (EU) No 923/2012, ICAO Doc 9863
BASIC ATMB 8.1.5	List the ACAS limitations.	1	ICAO Doc 9863 *Optional content: Skybrary Safety Nets*
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, Skybrary Safety Nets*

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*

[1] 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			
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 aerodromes			
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	Apply the procedures for establishing identification.	3	Any of the ATS surveillance systems identification methods
BASIC ATMB 9.4.2	Estimate the heading for a new track and the distance to the next waypoint.	3	
BASIC ATMB 9.4.3	Apply vectoring techniques.	3	
BASIC ATMB 9.4.4	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 3: METEOROLOGY

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	Recognise the relevance of meteorology in aviation.	1	
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	Regulation (EU) 2017/373 *Optional content: 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, volcanic ash
Subtopic METB 1.3 — Organisation of meteorological service			
BASIC METB 1.3.1	State the basic duties of meteorological offices.	1	*Optional content: WAFS, WAFC, MWO, VAAC, TCAC, SADIS, aerodrome meteorological office, aeronautical meteorological station*
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 International Standard Atmosphere (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

TOPIC METB 2 — ATMOSPHERE			
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	

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	State the typical air masses relevant to European weather.	1	*Optional content: polar, arctic, tropical, equatorial (maritime and continental)*
BASIC METB 3.2.2	Recognise the main isobaric features.	1	*Optional content: cyclones, anticyclones*
BASIC METB 3.2.3	Describe the difference between various fronts and the associated weather.	1	Warm front, cold front, occluded front
Subtopic METB 3.3 — Mesoscale systems			
BASIC METB 3.3.1	Recognise the main phenomena caused by mesoscale systems.	1	Mountain waves, valley winds, thunderstorm, squall line *Optional content: land/sea breezes, tornadoes, land spouts, waterspouts, Föhn, slope winds*
BASIC METB 3.3.2	Explain the relevance of mesoscale systems to aviation.	2	
Subtopic METB 3.4 — Wind			

TOPIC METB 3 — ATMOSPHERIC CIRCULATION			
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 the means by which wind is measured.	1	Anemometer, wind sock *Optional content: wind sensor, Beaufort scale, etc.*
BASIC METB 3.4.3	Explain the 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	State the different cloud types and their main characteristics.	1	
BASIC METB 4.1.3	State how the cloud base and the amount of cloud are measured and/or observed.	1	
BASIC METB 4.1.4	Define cloud base and ceiling.	1	
BASIC METB 4.1.5	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 the means by which visibility is measured.	1	
BASIC METB 4.3.4	Explain the significance of visibility in aviation.	2	
Subtopic METB 4.4 — Meteorological hazards			

TOPIC METB 4 — METEOROLOGICAL PHENOMENA			
BASIC METB 4.4.1	Explain the meteorological hazards to aviation.	2	Turbulence, icing, micro bursts, macro burst, wind shear, thunderstorms, volcanic ash *Optional content: 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 4: NAVIGATION

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	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	Latitude/longitude, degrees, minutes, seconds
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	Latitude/longitude
BASIC NAVB 2.2.4	State the reference system used in aviation.	1	WGS 84 *Optional content: impact of alternative reference models*

TOPIC NAVB 2 — THE EARTH			
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, declination
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 — Maps and charts used in aviation			
BASIC NAVB 3.1.1	Differentiate between the various maps and charts.	2	AIP
BASIC NAVB 3.1.2	State the specific use of various maps and charts.	1	
BASIC NAVB 3.1.3	Decode symbols and information displayed on maps and charts.	3	*Optional content: chart scale, topographical features, NAV aids, fixes, fly-over and fly-by waypoints, display of true north, magnetic north, variation, 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 *Optional content: triangle of velocities*
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	Describe visual navigation.	2	Map reading, visual reference
BASIC NAVB 4.3.2	State the cases where visual navigation is primarily used in commercial aviation.	1	Approach and landing, taxiing *Optional content: visual aids*
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, minimum altitudes, alternative routes, weather conditions, ICAO Flight Plan (Item 18 use)*

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	VOR, DME, ILS *Optional content: VDF, NDB, TACAN*
BASIC NAVB 5.1.2	State the use of ground-based systems.	1	VOR, DME, ILS *Optional content: VDF, NDB, TACAN*
BASIC NAVB 5.1.3	Characterise the main radio navigation techniques based on ground-based systems.	2	Area navigation, conventional navigation *Optional content: homing, inbound/ outbound tracking, instrument approach procedures, holding, drift assessment*
BASIC NAVB 5.1.4	Explain the accuracy and limitations of ground-based systems.	2	VDF, NDB, VOR, DME, ILS *Optional content: TACAN*
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 a satellite positioning system.	2	*Optional content: GPS, GLONASS, Galileo, Beidou*
BASIC NAVB 5.3.2	State the basic principles of the GNSS concept.	1	Basic, ABAS, SBAS, GBAS *Optional content: core constellations, MCMF, integrity, RAIM, accuracy improvement, geometric altitude accuracy*
BASIC NAVB 5.3.3	Explain the limitations of satellite-based systems.	2	GPS, Galileo *Optional content: GLONASS, Beidou, integrity, GPS NOTAMs*
Subtopic NAVB 5.4 — Instrument approach procedures			
BASIC NAVB 5.4.1	Recognise various types of instrument approach using aeronautical charts.	1	Precision Approach (PA), Approach Procedure with Vertical guidance (APV), Non-Precision Approach (NPA)
BASIC NAVB 5.4.2	Differentiate between precision approach and non-precision approach procedures.	2	*Optional content: 2D/3D operations*
BASIC NAVB 5.4.3	Recognise the different minima used during an instrument approach.	1	
BASIC NAVB 5.4.4	Define the terms appropriate to instrument approach minima.	1	OCA/OCH, MDA/MDH and DA/DH
BASIC NAVB 5.4.5	List the instrument 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: requirement for navigation computer, suitable sensors, 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: high-quality data, ICAO Doc 9613*
BASIC NAVB 6.1.4	Characterise the main aircraft and avionics functionalities used in area navigation.	2	*Optional content: database, fly-over and fly-by waypoints transitions, managed turns (RF and FRT) path terminators, parallel offset, autopilot/flight director (AP/FD)*
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	Components of PBN *Optional content: key enabler, ICAO Doc 9613*
BASIC NAVB 6.2.2	Differentiate between RNAV and RNP.	2	On-board performance monitoring and alerting *Optional content: different generations of aircraft and on-board systems*
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 the PBN concept.	1	*Optional content: global interoperability, limited number of navigation specifications, the PBN concept enables continuous descent operations (CDO) and continuous climb operations (CCO)*
BASIC NAVB 6.2.5	List the navigation specifications and the phases of flight they are applicable to.	1	RNAV 10, RNAV 5, RNAV 2, RNAV 1, RNP 4, RNP 2, RNP 1, RNP 0.3, A-RNP, RNP APCH and RNP AR APCH *Optional content: ICAO Doc 9613*
Subtopic NAVB 6.3 — PBN applications			
BASIC NAVB 6.3.1	State the navigation applications used in Europe.	1	RNAV 5, RNAV 1, RNP 1 with RF, RNP 0.3, RNP APCH *Optional content: PCP (Regulation (EU) No 716/2014*[1]*)* *(AF #1, AF #3), PBN (Regulation (EU) 2018/1048)*[2]

[1] Commission Implementing Regulation (EU) No 716/2014 of 27 June 2014 on the establishment of the Pilot Common Project supporting the implementation of the European Air Traffic Management Master Plan (OJ L 190, 28.6.2014, p. 19).

[2] Commission Implementing Regulation (EU) 2018/1048 of 18 July 2018 laying down airspace usage requirements and operating procedures concerning performance-based navigation (OJ L 189, 26.7.2018, p. 3).

TOPIC NAVB 7 — DEVELOPMENTS IN NAVIGATION			
Subtopic NAVB 7.1 — Future developments			
BASIC NAVB 7.1.1	State future developments in navigation.	1	*Optional content: 3D VNAV outside FA, trajectory-based operations*

SUBJECT 5: AIRCRAFT

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 the 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	Rudder, aileron, elevator, throttle, rotary wing controls
BASIC ACFTB 2.2.3	Explain the factors affecting aircraft stability.	2	
BASIC ACFTB 2.2.4	List aircraft design features reducing induced drag.	1	*Optional content: winglet, tip tanks, reducing wing incidence, aspect ratio, etc.*
BASIC ACFTB 2.2.5	Explain aircraft lights and their functions.	2	Regulation (EU) No 923/2012, ICAO Annex 6 *Optional content: position lights, anti-collision lights, taxi lights, navigation lights, stroboscopic lights, landing lights*
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	Fixed wing, rotary wing, balloon, glider, RPAS
Subtopic ACFTB 3.2 — Wake turbulence categories			
BASIC ACFTB 3.2.1	List the wake turbulence categories.	1	Regulation (EU) 2017/373
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 the ICAO noise classification.		ICAO Annex 16 *Optional content* https://www.easa.europa.eu/eaer/topics/technology-and-design/aircraft-noise

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	

TOPIC ACFTB 5 — AIRCRAFT ENGINES			
Subtopic ACFTB 5.4 — Electric engines			
BASIC ACFTB 5.4.1	Explain the operating principles, advantages and disadvantages of the electric engine.	2	
Subtopic ACFTB 5.5 — Sources of energy used in aviation			
BASIC ACFTB 5.5.1	List the sources of energy used in aviation propulsion systems.	1	Petroleum-based fuels (Avgas, Jet A-1, Jet B, biokerosene), electrical energy stored or generated on board the aircraft *Optional content: hydrogen cell*

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, 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, battery resource*
Subtopic ACFTB 6.4 — Aircraft elements and 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, cabin pressurisation, fire detection and extinguishing, emergency oxygen supply 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*
BASIC ACFTB 6.4.3	Explain common aircraft elements and their functions.	2	Aircraft cabin, flight deck, galley, doors, cargo compartments

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, wind shear, 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
BASIC ACFTB 7.4.3	Explain the benefits of continuous descent operations.	2	
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, continuous descent operations (CDO), continuous climb operations (CCO)
Subtopic ACFTB 7.7 — Environmental factors			
BASIC ACFTB 7.7.1	Explain performance restrictions due to environmental considerations.	2	*Optional content: continuous descent operations (CDO), continuous climb operations (CCO), fuel-dumping, noise-abatement procedures, minimum flight levels*

SUBJECT 6: HUMAN FACTORS

TOPIC HUMB 1 — INTRODUCTION TO HUMAN PERFORMANCE			
Subtopic HUMB 1.1 — Relevance of human factors to ATC			
BASIC HUMB 1.1.1	Define human factors.	1	
BASIC HUMB 1.1.2	Define human performance.	1	

TOPIC HUMB 1 — INTRODUCTION TO HUMAN PERFORMANCE			
BASIC HUMB 1.1.3	Explain the relevance of human factors to ATM.	2	Historical background, safety impact on ATM, licensing requirements, incidents
BASIC HUMB 1.1.4	Recognise the evolution of human performance during an ATCO's career.	2	*Optional content: Regulation (EU) 2015/340; experience; initial, unit, continuation and development training*

TOPIC HUMB 2 — HEALTH AND WELL-BEING			
Subtopic HUMB 2.1 — Fitness for duty			
BASIC HUMB 2.1.1	Recognise the effect of health and well-being on fitness for duty.	1	
BASIC HUMB 2.1.2	List the reasons for provisional inability to exercise the privileges of the ATCO licence.	1	Regulation (EU) 2015/340
BASIC HUMB 2.1.3	Recognise signs of lack of personal fitness.	1	Cognitive and physical fitness
BASIC HUMB 2.1.4	Describe good practices that contribute to maintaining fitness for duty.	2	*Optional content: fitness, diet*
Subtopic HUMB 2.2 — Stress and fatigue			
BASIC HUMB 2.2.1	Define stress.	1	Regulation (EU) 2017/373
BASIC HUMB 2.2.2	Define fatigue.	1	Regulation (EU) 2017/373
BASIC HUMB 2.2.3	Differentiate between stress and fatigue.	2	ICAO Doc 9966
BASIC HUMB 2.2.4	Explain the causal factors of stress and fatigue.	2	*Optional content: EUROCONTROL Fatigue and sleep management*
Subtopic HUMB 2.3 — Substance use and responsibility			
BASIC HUMB 2.3.1	Define psychoactive substance.	1	Regulation (EU) 2017/373
BASIC HUMB 2.3.2	Explain the effect of psychoactive substance use on the individual and on safety.	2	
BASIC HUMB 2.3.3	Describe individual responsibility in terms of psychoactive substance use.	2	Regulation (EU) 2017/373

TOPIC HUMB 3 — HUMAN PERFORMANCE			
Subtopic HUMB 3.1 — Individual behaviour			
BASIC HUMB 3.1.1	Define human behaviour.	1	
BASIC HUMB 3.1.2	Explain the differences and commonalities that exist among people.	2	*Optional content: attitude, cultural, language, motivation*
BASIC HUMB 3.1.3	Describe the reasons for complacency and the associated effects.	2	Safety, working relationship — team
BASIC HUMB 3.1.4	Describe the reasons for overconfidence and the associated effects.	2	Safety, working relationship — team
BASIC HUMB 3.1.5	Explain the dangers of boredom.	2	
Subtopic HUMB 3.2 — Safety culture and professional conduct			
BASIC HUMB 3.2.1	Recognise professional conduct in the workplace.	1	*Optional content: professionalism, attitude, communication, teamwork*
BASIC HUMB 3.2.2	Describe how the air traffic controller contributes to a positive safety culture.	2	*Optional content: attitude towards safety, punctuality, rigour, adherence to rules and regulations, teamwork attitude, etc.*
BASIC HUMB 3.2.3	Consider the factors which influence responsible behaviour.	2	*Optional content: situation, team, personal situation and judgement, instance of justification, moral motivation, personality*

TOPIC HUMB 4 — HUMAN ERROR			
Subtopic HUMB 4.1 — Definition of human error			
BASIC HUMB 4.1.1	Define human error.	1	
Subtopic HUMB 4.2 — Classification of human error			
BASIC HUMB 4.2.1	List the types of errors.	1	*Optional content: slips, lapses, mistakes*
BASIC HUMB 4.2.2	Describe the factors which contribute to the occurrence of different types of errors and how these may be reduced.	2	Fatigue, lack of skill, misunderstanding, multitasking, lack of information, distraction, lack of work satisfaction
BASIC HUMB 4.2.3	Define violations.	1	
BASIC HUMB 4.2.4	Differentiate between errors and violations of rules and their consequences for the controller.	2	

TOPIC HUMB 5 — TEAMWORK			
Subtopic HUMB 5.1 — Teamwork and team roles			
BASIC HUMB 5.1.1	Define teamwork.	1	
BASIC HUMB 5.1.2	Describe the differences between social human relations and professional interactions.	2	
BASIC HUMB 5.1.3	Explain the different types of teams in the ATC environment.	2	*Optional content: executive/planner, shift team, sector group or ATC unit team, team with pilots, team with adjacent ATC units*
BASIC HUMB 5.1.4	Recognise the different types, roles and characters in a team	1	
BASIC HUMB 5.1.5	Characterise the principles of teamwork.	2	*Optional content: team membership, team roles, group dynamics, advantages/disadvantages of teamwork, conflicts and their solutions*

TOPIC HUMB 6 — COMMUNICATION			
Subtopic HUMB 6.1 — Communication in ATC			
BASIC HUMB 6.1.1	Define communication.	1	
BASIC HUMB 6.1.2	List an ATCO's communication partners.	1	
BASIC HUMB 6.1.3	Explain good communication practices.	2	Speaking and listening
BASIC HUMB 6.1.4	Differentiate between hearing and listening.	2	
Subtopic HUMB 6.2 — Communication modes			
BASIC HUMB 6.2.1	Describe the factors which affect verbal communication.	2	*Optional content: word choice, intonation, speed, tone, distortion, load, expectation, noise, interruption, language competence*
BASIC HUMB 6.2.2	Describe the factors which affect non-verbal communication.	2	*Optional content: touch, choice, expectation, noise, interruption*
BASIC HUMB 6.2.3	Describe misunderstandings that may arise during a controller's communication.	2	

SUBJECT 7: EQUIPMENT AND SYSTEMS

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	Describe the characteristics of radio waves.	2	Propagation, limitations
BASIC EQPSB 2.1.2	State the use, characteristics and limitations of frequency bands.	1	Use in ATC, navigation and communications, and surveillance, use and application in the Aeronautical Mobile Service
BASIC EQPSB 2.1.3	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, QTE *Optional content: precision of VDF/UDF used in the State system*

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 and others			
BASIC EQPSB 3.2.1	Describe the use of other voice communications.	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	
BASIC EQPSB 3.3.2	Explain the use and benefits of aircraft communications addressing and reporting system (ACARS).	2	
Subtopic EQPSB 3.4 — Airline communications			

TOPIC EQPSB 3 — COMMUNICATION EQUIPMENT			
BASIC EQPSB 3.4.1	State the use of SELCAL.	1	

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, Mode S
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 area, approach and aerodrome control.	2	Mode A, Mode C, Mode S, SMR *Optional content: DFTI*
BASIC EQPSB 5.4.2	Explain the advantages and disadvantages of PSR/SSR.	2	

TOPIC EQPSB 6 — AUTOMATIC DEPENDENT SURVEILLANCE			
Subtopic EQPSB 6.1 — Principles of automatic dependent surveillance (ADS)			
BASIC EQPSB 6.1.1	State the different applications of ADS.	1	ADS-B, ADS-C

TOPIC EQPSB 6 — AUTOMATIC DEPENDENT SURVEILLANCE			
BASIC EQPSB 6.1.2	Explain the working principles of ADS.	2	
Subtopic EQPSB 6.2 — Use of automatic dependent surveillance (ADS)			
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 (MLAT)			
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 (MLAT)			
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 —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	State the working principles of surveillance data processing.	1	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*
Subtopic EQPSB 8.3 — Flight data processing			
BASIC EQPSB 8.3.1	Explain the FDPS core functions.	2	*Optional content: system flight plan, data input, SSR code management, coordination, correlation/decorrelation, etc.*

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 — Online 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 communication
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	Regulation (EU) No 923/2012, ICAO Annex 3

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 communications 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	Recognise equipment to be found specifically in an ACC.	1	

TOPIC EQPSB 11 — WORKING POSITIONS			
11.4.1			

SUBJECT 8: PROFESSIONAL ENVIRONMENT

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, RPAS, gliders, balloons, calibration flights, aerial photography, skydiving*
Subtopic PENB 2.2 — Military aviation			
BASIC PENB 2.2.1	Describe airspace usage by military aircraft.	2	Airspace reservations, training, interception, in-flight refuelling, RPAS *Optional content: low-level flying, test flights, special military operations*
Subtopic PENB 2.3 — Pilot expectations and requirements			
BASIC PENB 2.3.1	Recognise pilots' expectations and requirements.	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 — ATS as a service provider			
BASIC PENB 3.1.1	State the role of ATS as a service provider.	1	*Optional content: Skybrary — Air Traffic Service*
BASIC PENB 3.1.2	Recognise the means by which ATS providers are 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 ATS in the concept of sustainable development.	2	*Optional content: ICAO Annex 16*
BASIC PENB 4.1.3	State how the impact of aviation on the environment can be mitigated by ANSPs.	1	*Optional content: EU ETS, SES initiative, EUROCONTROL role, continuous descent operations (CDOs), continuous climb operations (CCO), collaborative environmental management (CEM), noise-abatement procedures*

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

AERODROME CONTROL (ADC) RATING FOR ADC TRAINING — TOPICS, SUBTOPICS AND TRAINING OBJECTIVES

(a) The general principles that apply to this AMC are contained in AMC1 ATCO.D.010(a).

(b) The ATCO rating training Aerodrome Control Rating (ADC) should contain the following topics, subtopics and training objectives that are associated with the subjects, topics and subtopics contained in point ATCO.D.010(a)(2)(i) Aerodrome Control Rating (ADC).

(c) Subjects from point ATCO.D.010(a)(2)(i) are repeated in this AMC for the convenience of the reader and do not form part of it.

INTRODUCTION TO THE COURSE

TOPIC INTR 1 — COURSE MANAGEMENT				
Subtopic INTR 1.1 — Course introduction				
ADC INTR 1.1.1	Explain the aims and main objectives of the course.	2		ALL
Subtopic INTR 1.2 — Course administration				
ADC INTR 1.2.1	State how the course is administered.	1		ALL
Subtopic INTR 1.3 — Study material and training documentation				
ADC INTR 1.3.1	Use appropriate documents and their sources for course studies.	3	*Optional content: training documentation, library, CBT library, web, learning management server*	ALL
ADC 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				
ADC INTR 2.1.1	State the different training methods used during the course.	1	Theoretical training, practical training, self-study, types of training events	ALL
ADC INTR 2.1.2	State the subjects covered by the course and their purpose.	1		ALL
ADC INTR 2.1.3	Describe the organisation of theoretical training.	2	*Optional content: course programme*	ALL
ADC 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				
ADC 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				
ADC INTR 2.3.1	Describe the assessment process.	2		ALL

SUBJECT 1: AVIATION LAW

TOPIC LAW 1 — ATCO LICENSING/CERTIFICATE OF COMPETENCE				
Subtopic LAW 1.1 — Privileges and conditions				
ADC LAW 1.1.1	Appreciate the conditions which shall be met to issue an Aerodrome Control rating.	3	Regulation (EU) 2015/340[1] *Optional content: national documents*	ADC
ADC LAW 1.1.2	Explain how to maintain and update professional knowledge and skills to retain competence in the operational environment.	2		ALL
ADC LAW 1.1.3	Explain the conditions for the suspension/revocation of an ATCO licence.	2	Regulation (EU) 2015/340	ALL

TOPIC LAW 2 — RULES AND REGULATIONS				
Subtopic LAW 2.1 — Reports				
ADC LAW	Describe the functions of, and processes for, reporting.	2	Reporting culture, forms for mandatory and voluntary occurrence reporting,	ALL

[1] 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).

TOPIC LAW 2 — RULES AND REGULATIONS				
2.1.1			Regulation (EU) No 376/2014[1], Regulation (EU) 2015/1018[2] *Optional content: breach of regulations, watchbook/logbook, records, voluntary reporting*	
ADC LAW 2.1.2	Use forms for reporting.	3	Regulation (EU) No 376/2014, forms for mandatory and voluntary occurrence reporting *Optional content: routine air-reports, breach of regulations, watchbook/logbook, records*	ALL
Subtopic LAW 2.2 — Airspace				
ADC LAW 2.2.1	Appreciate airspace classes and structure and their relevance to operations using the Aerodrome Control rating.	3		ADC
ADC LAW 2.2.2	Provide planning, coordination and control actions appropriate to the classification and structure of airspace.	4	*Optional content: Regulation (EU) No 923/2012[3], international requirements, civil requirements, military requirements, areas of responsibility, sectorisation, national requirements*	ALL
ADC LAW 2.2.3	Appreciate responsibility for terrain clearance.	3		ALL

TOPIC LAW 3 — ATS SAFETY MANAGEMENT				
Subtopic LAW 3.1 — Feedback process				
ADC LAW 3.1.1	State the importance of controller contribution to the feedback process.	1	*Optional content: voluntary reporting*	ALL
ADC LAW 3.1.2	Describe how reported occurrences are analysed.	2	*Optional content: Regulation (EU) No 376/2014, local procedures*	ALL
ADC LAW 3.1.3	Name the means used to disseminate recommendations.	1	*Optional content: safety letters, safety boards web pages*	ALL
ADC LAW 3.1.4	Appreciate the just culture concept.	3	Benefits, prerequisites, constraints *Optional content: Skybrary*	ALL
Subtopic LAW 3.2 — Safety investigation				

[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).

[2] Commission Implementing Regulation (EU) 2015/1018 of 29 June 2015 laying down a list classifying occurrences in civil aviation to be mandatorily reported according to Regulation (EU) No 376/2014 of the European Parliament and of the Council (OJ L 163, 30.6.2015, p. 1).

[3] 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).

TOPIC LAW 3 — ATS SAFETY MANAGEMENT				
ADC LAW 3.2.1	Describe the role and objectives of safety investigation in the improvement of safety.	2		ALL

SUBJECT 2: AIR TRAFFIC MANAGEMENT

TOPIC ATM 1 — PROVISION OF SERVICES				
Subtopic ATM 1.1 — Aerodrome control service				
ADC ATM 1.1.1	Appreciate areas of responsibility.	3	Control zone, traffic circuit, manoeuvring area, movement area, vicinity *Optional content: ATZ*	ADC
ADC ATM 1.1.2	Provide aerodrome control service.	4	Regulation (EU) No 923/2012, Regulation (EU) 2017/373[1], operating procedures for the simulated/training environment	ADC
Subtopic ATM 1.2 — Flight information service (FIS)				
ADC ATM 1.2.1	Describe the information that shall be passed on to aircraft by an aerodrome controller.	2	Regulation (EU) 2017/373 *Optional content: ICAO Doc 4444*	ADC
ADC ATM 1.2.2	Provide FIS.	4	Regulation (EU) No 923/2012, Regulation (EU) 2017/373++ *Optional content: national documents*	*ALL*
ADC ATM 1.2.3	Issue appropriate information.	3	Regulation (EU) 2017/373, essential local traffic, traffic information	ADC
ADC ATM 1.2.4	Appreciate the use of ATIS in the provision of FIS.	3	Regulation (EU) No 923/2012	*ALL*
Subtopic ATM 1.3 — Alerting service (ALRS)				
ADC ATM 1.3.1	Provide ALRS.	4	Regulation (EU) 2017/373, Regulation (EU) No 923/2012 *Optional content: national documents*	ALL
ADC ATM 1.3.2	Respond to distress and urgency messages and signals.	3	Regulation (EU) No 923/2012, ICAO Annex 10 *Optional content: EUROCONTROL Guidelines for Controller Training in the Handling of Unusual/Emergency Situations, ICAO Doc 4444, national documents*	ALL
Subtopic ATM 1.4 — ATS system capacity and air traffic flow management (ATFM)				
ADC ATM 1.4.1	Appreciate the impact of the ATS system capacity and air traffic flow management on the controller.	3	*Optional content: EUROCONTROL ATFCM Users Manual, slot management, slot*	ADC

[1] Commission Implementing Regulation (EU) 2017/373 of 1 March 2017 laying down common requirements for providers of air traffic management/air navigation services and other air traffic management network functions and their oversight, repealing Regulation (EC) No 482/2008, Implementing Regulations (EU) No 1034/2011, (EU) No 1035/2011 and (EU) 2016/1377 and amending Regulation (EU) No 677/2011 (OJ L 62, 8.3.2017, p. 1).

TOPIC ATM 1 — PROVISION OF SERVICES				
			allocation procedures, local implementation of ATFCM principles, etc.	
ADC ATM 1.4.2	Organise traffic to take account of flow management.	4	*Optional content: departure sequence*	ADC
ADC ATM 1.4.3	Inform the appropriate local ATFM unit of local factors affecting the ATS system capacity and air traffic flow management.	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*	ADC

TOPIC ATM 2 — COMMUNICATION				
Subtopic ATM 2.1 — Effective communication				
ADC ATM 2.1.1	List the communication means between controllers.	1	Optional content: electronic, written, verbal and non-verbal communication	ALL
ADC ATM 2.1.2	Select the most suitable means of communication given the situation.	5		ALL
ADC ATM 2.1.3	Use approved phraseology.	3	Regulation (EU) No 923/2012 *Optional content: published national/local language phraseology*	ALL
ADC ATM 2.1.4	Ensure effective communication.	4	Use of plain language when required, communication within the sector/working position, between the sectors/WPs/ATC units, readback/verification of readback	ALL
ADC ATM 2.1.5	Analyse examples of pilot–controller communication for effectiveness.	4	*Optional content: real-life recordings, situation in the simulator*	ALL

TOPIC ATM 3 — ATC CLEARANCES AND ATC INSTRUCTIONS				
Subtopic ATM 3.1 — ATC clearances				
ADC ATM 3.1.1	Issue appropriate ATC clearances.	3	Regulation (EU) No 923/2012, Regulation (EU) 2017/373 *Optional content: ICAO Doc 4444, national documents*	ALL
ADC ATM 3.1.2	Integrate appropriate ATC clearances into the control service.	4		ALL
ADC ATM 3.1.3	Ensure that the agreed course of action is carried out.	4		ALL
Subtopic ATM 3.2 — ATC instructions				
ADC ATM 3.2.1	Issue appropriate ATC instructions.	3	Regulation (EU) No 923/2012, Regulation (EU) 2017/373	ALL

TOPIC ATM 3 — ATC CLEARANCES AND ATC INSTRUCTIONS				
			Optional content: ICAO Doc 4444, national documents	
ADC ATM 3.2.2	Integrate appropriate ATC instructions into the control service.	4		ALL
ADC ATM 3.2.3	Ensure that the agreed course of action is carried out.	4		ALL

TOPIC ATM 4 — COORDINATION				
Subtopic ATM 4.1 — Necessity for coordination				
ADC ATM 4.1.1	Identify the need for coordination.	3		ALL
Subtopic ATM 4.2 — Tools and methods for coordination				
ADC 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				
ADC ATM 4.3.1	Initiate appropriate coordination.	3	Delegation/transfer of responsibility for air–ground communications and separation, transfer of control, etc., Regulation (EU) 2017/373 *Optional content: release point*	ALL
ADC ATM 4.3.2	Analyse the 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
ADC ATM 4.3.3	Select, after negotiation, an appropriate course of action.	5		ALL
ADC ATM 4.3.4	Ensure that the agreed course of action is carried out.	4		ALL
ADC ATM 4.3.5	Coordinate when providing FIS.	4	Regulation (EU) 2017/373 *Optional content: ICAO Doc 4444*	ALL
ADC ATM 4.3.6	Coordinate when providing ALRS.	4	Regulation (EU) 2017/373 *Optional content: ICAO Doc 4444*	ALL

TOPIC ATM 5 — ALTIMETRY AND LEVEL ALLOCATION				
Subtopic ATM 5.1 — Altimetry				
ADC ATM 5.1.1	Allocate levels according to altimetry data.	4	Regulation (EU) No 923/2012	ALL

TOPIC ATM 5 — ALTIMETRY AND LEVEL ALLOCATION				
ADC 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				
ADC 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*	ADC

TOPIC ATM 6 — SEPARATION				
Subtopic ATM 6.1 — Separation between departing aircraft				
ADC ATM 6.1.1	Provide separation between departing aircraft.	4	Regulation (EU) 2017/373 *Optional content: ICAO Doc 4444*	ADC
Subtopic ATM 6.2 — Separation of departing aircraft from arriving aircraft				
ADC ATM 6.2.1	Provide separation of departing aircraft from arriving aircraft.	4	Regulation (EU) 2017/373	ADC
Subtopic ATM 6.3 — Separation of landing aircraft and preceding landing or departing aircraft				
ADC ATM 6.3.1	Provide separation of landing aircraft and preceding landing or departing aircraft.	4	Regulation (EU) 2017/373	ADC
Subtopic ATM 6.4 — Time-based wake turbulence longitudinal separation				
ADC ATM 6.4.1	Provide time-based wake turbulence longitudinal separation.	4	Regulation (EU) 2017/373, Regulation (EU) No 923/2012	ADC
Subtopic ATM 6.5 — Reduced separation minima				
ADC ATM 6.5.1	Provide reduced separation minima.	4	Regulation (EU) 2017/373	ADC

TOPIC ATM 7 — AIRBORNE AND GROUND-BASED SAFETY NETS				
Subtopic ATM 7.1 — Airborne safety nets				
ADC ATM 7.1.1	Recognise the independence of ACAS thresholds and ATC separation standards.	2	ICAO Doc 9863 *Optional content: Skybrary Safety Nets*	ALL
ADC ATM 7.1.2	Describe the controller responsibility during and following an ACAS RA reported by the pilot.	2	Regulation (EU) No 923/2012 *Optional content: ICAO Doc 4444, ICAO Doc 9863, Skybrary Safety Nets*	ALL
ADC ATM 7.1.3	Respond to pilot notification of actions based on airborne systems warnings.	3	*Optional content: ACAS, Skybrary Safety Nets*	ADC
Subtopic ATM 7.2 — Ground-based safety nets				
ADC ATM 7.2.1	Respond to available ground-based safety nets' warnings.	3		ADC

TOPIC ATM 8 — DATA DISPLAY				
Subtopic ATM 8.1 — Data management				
ADC 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
ADC ATM 8.1.2	Analyse pertinent data on data displays.	4		ALL
ADC ATM 8.1.3	Organise pertinent data on data displays.	4		ALL
ADC ATM 8.1.4	Obtain flight plan information.	3	CPL, supplementary information *Optional content: FPL, AFIL, etc.*	ALL
ADC 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				
ADC ATM 9.1.1	Obtain information concerning the operational environment.	3	*Optional content: local/simulator operation manuals, briefing, notices, current flight plan data/information displays, pilot reports, coordination, verification of information*	ALL
ADC ATM 9.1.2	Ensure the integrity of the operational environment.	4	*Optional content: frequency, VOLMET, ATIS, SIGMET, systems' set-up, integrity of displays*	ADC
Subtopic ATM 9.2 — Verification of the currency of operational procedures				
ADC ATM 9.2.1	Check all relevant documentation before managing traffic.	3	*Optional content: briefing, letters of agreement (LoAs), NOTAMs, AICs*	ALL
Subtopic ATM 9.3 — Handover–takeover				
ADC ATM 9.3.1	Transfer information to the relieving controller.	3		ALL
ADC ATM 9.3.2	Obtain information from the controller handing over.	3		ALL
ADC ATM 9.3.3	List possible actions to provide a safe position handover–takeover.	1	*Optional content: rigour, preparation, overlap time*	ALL
ADC ATM 9.3.4	Explain the consequences of a missed position handover–takeover process.	2		ALL

TOPIC ATM 10 — PROVISION OF AERODROME CONTROL SERVICE				
Subtopic ATM 10.1 — Responsibility for the provision				
ADC ATM 10.1.1	Explain the responsibility for the provision of aerodrome control service.	2	Regulation (EU) 2017/373, Regulation (EU) No 923/2012 *Optional content: ICAO Doc 4444*	ADC
ADC ATM 10.1.2	Describe the division of responsibility among air traffic control units.	2	Regulation (EU) 2017/373 *Optional content: ICAO Doc 4444*	*ALL*
ADC ATM 10.1.3	Describe the responsibility in regard to military traffic.	2	ICAO Doc 4444 *Optional content: ICAO Doc 9554*	*ALL*
ADC ATM 10.1.4	Describe the responsibility in regard to unmanned free balloons.	2	Regulation (EU) No 923/2012	*ALL*
ADC ATM 10.1.5	Appreciate the influence of operational requirements.	3	*Optional content: military flying, calibration flights, aerial photography*	*ALL*
Subtopic ATM 10.2 — Traffic management process				
ADC ATM 10.2.1	Ensure that situational awareness is maintained.	4	Information gathering, observation, traffic projection	ADC
ADC ATM 10.2.2	Detect conflicts in time for appropriate resolution.	4		*ALL*
ADC ATM 10.2.3	Identify potential solutions to achieve a safe and effective flow of aerodrome traffic.	3		ADC
ADC ATM 10.2.4	Evaluate possible outcomes of different planning and control actions.	5		*ALL*
ADC ATM 10.2.5	Select an appropriate plan in time to achieve safe and effective flow of aerodrome traffic.	5		ADC
ADC ATM 10.2.6	Ensure the adequate prioritisation of actions.	4		*ALL*
ADC ATM 10.2.7	Execute the selected plan in a timely manner.	3		*ALL*
ADC ATM 10.2.8	Ensure that a safe and efficient outcome is achieved.	4	Traffic monitoring, adaptability and follow-up	*ALL*
Subtopic ATM 10.3 — Aeronautical ground lights				
ADC ATM 10.3.1	Select appropriate aeronautical ground lights.	5	Regulation (EU) 2017/373	ADC
Subtopic ATM 10.4 — Information to aircraft by the aerodrome control tower				
ADC ATM 10.4.1	Provide information related to the operation of aircraft.	4	Regulation (EU) 2017/373, Regulation (EU) No 255/2010	ADC

TOPIC ATM 10 — PROVISION OF AERODROME CONTROL SERVICE				
ADC ATM 10.4.2	Provide information on aerodrome conditions.	4	Regulation (EU) No 923/2012, Regulation (EU) 2017/373	ADC
Subtopic ATM 10.5 — Runway in use				
ADC ATM 10.5.1	Select the runway in use.	5	Regulation (EU) 2017/373, Regulation (EU) No 923/2012	ADC
ADC ATM 10.5.2	Coordinate the runway in use.	4	*Optional content: approach control, area control, runway selection, change of runway*	ADC
ADC ATM 10.5.3	Manage traffic in the event of runway-in-use change.	4	*Optional content: Skybrary*	ADC
Subtopic ATM 10.6 — Control of aerodrome traffic				
ADC ATM 10.6.1	Predict positions of aircraft in the aerodrome traffic and taxi circuits.	4	Regulation (EU) 2017/373	ADC
ADC ATM 10.6.2	Manage traffic on the manoeuvring area.	4	Regulation (EU) 2017/373 Regulation (EU) No 923/2012 *Optional content: runway inspection*	ADC
ADC ATM 10.6.3	Manage traffic in accordance with a change to operational procedures.	4	*Optional content: taxiway closure*	ADC
ADC ATM 10.6.4	Balance the workload against personal capacity.	5	*Optional content: replanning, prioritising solutions, denying requests, delaying traffic*	ADC
Subtopic ATM 10.7 — Control of airborne traffic				
ADC ATM 10.7.1	Manage traffic in the traffic circuit.	4	Regulation (EU) 2017/373 Regulation (EU) No 923/2012	ADC
ADC ATM 10.7.2	Integrate the change in the serviceability of radio aids in the management of aerodrome traffic.	4	*Optional content: limitations, availability and status of ground-based and satellite-based systems*	ADC
ADC ATM 10.7.3	Integrate surface conditions into the control of aerodrome traffic.	4	*Optional content: damp, wet, water patches, flooding, snow, slush, ice, braking performance*	ADC
ADC ATM 10.7.4	Integrate information about meteorological phenomena into the control of aerodrome traffic.	4	*Optional content: clouds, precipitation, visibility, wind, meteorological hazards*	ADC
ADC ATM 10.7.5	Integrate the information provided by situation displays.	4		ADC
ADC ATM 10.7.6	Issue missed approach or go-around instruction.	3	Regulation (EU) No 923/2012, Regulation (EU) 2027/373 *Optional content: obstructed runway*	ADC
Subtopic ATM 10.8 — Departing traffic				

TOPIC ATM 10 — PROVISION OF AERODROME CONTROL SERVICE				
ADC ATM 10.8.1	Manage departing aircraft.	4	ICAO Doc 4444, Regulation (EU) No 923/2012 Regulation (EU) 2017/373, use of situation displays, allocation of the order of priority, meteorological phenomena, environmental factors, wake turbulence, appropriate departure clearances, SIDs	ADC
ADC ATM 10.8.2	Integrate departure sequence into the control of aerodrome traffic.	4	ICAO Doc 4444, Regulation (EU) No 923/2012 Regulation (EU) 2017/373	ADC
ADC ATM 10.8.3	Provide appropriate information to departing traffic.	4	Regulation (EU) 2017/373 Regulation (EU) No 255/2010, use of situation displays, wake turbulence *Optional content: ICAO Doc 4444*	ADC
Subtopic ATM 10.9 — Arriving traffic				
ADC ATM 10.9.1	Manage arriving aircraft.	4	Regulation (EU) 2017/373, Regulation (EU) No 923/2012, use of situation displays, allocation of the order of priority, meteorological phenomena, environmental factors, wake turbulence *Optional content: ICAO Doc 4444*	ADC
ADC ATM 10.9.2	Integrate the approach sequence into the control of aerodrome traffic.	4	Regulation (EU) 2017/373 Regulation (EU) No 923/2012	ADC
ADC ATM 10.9.3	Integrate aircraft on visual approach into the aerodrome traffic.	4	Regulation (EU) 2017/373 Regulation (EU) No 923/2012	ADC
ADC ATM 10.9.4	Integrate aircraft on missed approach into the aerodrome traffic.	4		ADC
ADC ATM 10.9.5	Integrate aircraft performing circling approach into the aerodrome traffic.	4	ICAO Doc 8168 Volume II	ADC
ADC ATM 10.9.6	Provide appropriate information to arriving aircraft.	4	Regulation (EU) 2017/373 Regulation (EU) No 923/2012	ADC
Subtopic ATM 10.10 — Special VFR (SVFR) operations				
ADC ATM 10.10.1	Manage the suspension of VFR operations.	4	Regulation (EU) 2017/373	ADC
ADC ATM 10.10.1	Manage SVFR traffic.	4	Regulation (EU) No 923/2012, Regulation (EU) 2017/373	ADC
Subtopic ATM 10.11 — Low-visibility operations				
ADC ATM 10.11.1	Describe the procedures for low-visibility operations.	3	Regulation (EU) 2017/373	ADC
Subtopic ATM 10.12 — Aerodrome control service with advanced system support				

TOPIC ATM 10 — PROVISION OF AERODROME CONTROL SERVICE				
ADC ATM 10.12.1	Appreciate the impact of advanced systems on the provision of aerodrome control service.		*Optional content: surface manager (SMAN), departure manager (DMAN), automated conflict/incursion tools, alarms and resolution advisory tools, automated assistance for surface movement planning and routing, enhanced vision technology in low visibility for controllers*	ADC

SUBJECT 3: METEOROLOGY

TOPIC MET 1 — METEOROLOGICAL PHENOMENA				
Subtopic MET 1.1 — Meteorological phenomena				
ADC MET 1.1.1	Appreciate the impact of different cloud types.	3	Cumulonimbus *Optional content: stratus, nimbostratus, etc.*	ADC
ADC MET 1.1.2	Recognise different cloud types.	1		ADC
ADC MET 1.1.3	Appreciate the impact of precipitation.	3	Precipitation and microphysics *Optional content: rain, snow, sleet, hail*	ADC
ADC MET 1.1.4	Appreciate the impact of atmospheric obscurity.	3	*Optional content: advection fog, radiation fog, mixing, evaporation, mist, drizzle*	ADC
ADC MET 1.1.5	Appreciate the effect and impact of wind.	3	Gusting, veering, backing *Optional content: land breezes, sea breezes, Föhn*	ADC
ADC MET 1.1.6	Appreciate the effect and danger of hazardous meteorological phenomena.	3	Wind shear, turbulence, thunderstorms, icing, microbursts	ADC
ADC MET 1.1.7	Appreciate the effect of a frontal system on aerodrome operations.	3		ADC
ADC MET 1.1.8	Integrate data about meteorological phenomena into the 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				
ADC MET 2.1.1	Extract information from meteorological instruments.	3	*Optional content: anemometer, RVR indicator, cloud base indicator, ceilometer, barometer*	ADC
Subtopic MET 2.2 — Other sources of meteorological data				

TOPIC MET 2 — SOURCES OF METEOROLOGICAL DATA				
ADC MET 2.2.1	Decode information from meteorological data displays.	3		*ALL*
ADC MET 2.2.2	Use appropriate communication tools and networks to obtain meteorological data.	3		ADC
ADC MET 2.2.3	Relay meteorological information.	3	ICAO Doc 4444, Regulation (EU) No 923/2012 *Optional content: flight information centre, adjacent ATS unit, ADS-C reports*	*ALL*

SUBJECT 4: NAVIGATION

TOPIC NAV 1 — MAPS AND AERONAUTICAL CHARTS				
Subtopic NAV 1.1 — Maps and charts				
ADC NAV 1.1.1	Decode symbols and information displayed on aeronautical maps and charts.	3	Instrument approach charts, SID charts, aerodrome charts *Optional content: visual approach charts, military maps and charts*	ADC APP APS
ADC NAV 1.1.2	Use relevant maps and charts.	3		*ALL*

TOPIC NAV 2 — INSTRUMENT NAVIGATION				
Subtopic NAV 2.1 — Navigational systems				
ADC NAV 2.1.1	Describe how the operational status of navigational systems may change.	2	*Optional content: VDF, NDB, VOR, DME, ILS, ABAS, SBAS, GBAS, RNP*	ADC
ADC NAV 2.1.2	Appreciate the effect of a change on the operational status of navigational systems.	3	*Optional content: precision, limitations, status, degraded procedures*	*ALL*
ADC NAV 2.1.3	Decode operational status displays of navigational systems.	3	*Optional content: VDF, NDB, VOR, DME, ILS and GBAS*	ADC
Subtopic NAV 2.2 — Stabilised approach				
ADC NAV 2.2.1	Describe the concept of stabilised approach.	2	*Optional content: Skybrary*	ADC APP APS
ADC NAV 2.2.2	Appreciate the effect of late change of runway-in-use for landing aircraft.	3	Cockpit workload *Optional content: impact on vertical profile (CDO), FMS management, crew procedure briefing, missed approach, loss of situational awareness, etc.*	ADC
Subtopic NAV 2.3 — Instrument departures and arrivals				

TOPIC NAV 2 — INSTRUMENT NAVIGATION				
ADC NAV 2.3.1	Describe relevant SIDs.	2		ADC
ADC NAV 2.3.2	Describe the types and phases of instrument approach procedures.	2	Regulation (EU) 2017/373, ICAO Annex 6	ADC APP APS
ADI (TWR) NAV 2.3.3	Describe the relevant minima applicable for a precision/non-precision and visual approach.	2	*Optional content: Type A/B operations, CAT I/II/III criteria, LNAV, LNAV/VNAV, LPV, RNP AR APCH minima*	ADC APP APS
Subtopic NAV 2.4 — Satellite-based systems				
ADC NAV 2.4.1	State the different applications of satellite-based systems relevant for aerodrome operations.	1	*Optional content: LNAV, LNAV/VNAV, LPV, RNP minima, precision approach*	ADC
Subtopic NAV 2.5 — PBN applications				
ADC NAV 2.5.1	State future PBN developments.	1	A-RNP, RNP (AR) DEP *Optional content: RNP 3D, VNAV, 4D, TBO*	*ALL*

SUBJECT 5: AIRCRAFT

TOPIC ACFT 1 — AIRCRAFT INSTRUMENTS				
Subtopic ACFT 1.1 — Aircraft instruments				
ADC ACFT 1.1.1	Integrate information from aircraft instruments provided by the pilot into the provision of ATS.	4		ALL
ADC ACFT 1.1.2	Explain the operation of aircraft radio equipment.	2	*Optional content: radios (number of), emergency radios*	ALL
ADC ACFT 1.1.3	Explain the operation of on-board surveillance equipment.	2	Transponders: equipment Mode A, Mode C, Mode S, ADS capability	ADC APS ACS

TOPIC ACFT 2 — AIRCRAFT CATEGORIES				
Subtopic ACFT 2.1 — Wake turbulence				
ADC ACFT 2.1.1	Explain the wake turbulence effect and associated hazards to succeeding aircraft.	2		ALL
ADC ACFT 2.1.2	Appreciate the techniques used to prevent hazards associated with wake turbulence to succeeding aircraft.	3		ALL
Subtopic ACFT 2.2 — Application of the ICAO approach categories				
ADC ACFT 2.2.1	Describe the use of the ICAO approach categories.	2	ICAO Doc 8168	ADC APP APS

TOPIC ACFT 2 — AIRCRAFT CATEGORIES				
ADC ACFT 2.2.2	Appreciate the effect of the ICAO approach categories on the traffic organisation.	3		ADC APP APS

TOPIC ACFT 3 — FACTORS AFFECTING AIRCRAFT PERFORMANCE				
Subtopic ACFT 3.1 — Take-off factors				
ADC 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*	ADC
Subtopic ACFT 3.2 — Climb factors				
ADC ACFT 3.2.1	Appreciate the influence of factors affecting aircraft during climb.	3	*Optional content: speed, mass, air density, wind and temperature*	ADC
Subtopic ACFT 3.3 — Final approach and landing factors				
ADC ACFT 3.3.1	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*	ADC
Subtopic ACFT 3.4 — Economic factors				
ADC ACFT 3.4.1	Integrate consideration of economic factors affecting aircraft.	4	*Optional content: starting-up, taxiing, routing, departure sequence*	ADC
Subtopic ACFT 3.5 — Environmental factors				
ADC ACFT 3.5.1	Appreciate the performance restrictions due to environmental constraints.	3	*Optional content: noise-abatement procedures, minimum flight altitudes, bird strike hazard*	ADC

TOPIC ACFT 4 — AIRCRAFT DATA				
Subtopic ACFT 4.1 — Recognition of aircraft types				
ADC 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*	ADC
Subtopic ACFT 4.2 — Performance data				
ADC 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 control service.	4	Performance data under a representative variety of circumstances	*ALL*

SUBJECT 6: HUMAN FACTORS

TOPIC HUM 1 — INFORMATION PROCESSING				
Subtopic HUM 1.1 — Cognition and factors influencing it				
ADC HUM 1.1.1	Describe the human information-processing model.	2	Attention, perception, memory, situational awareness, decision-making, response	ALL
ADC 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
Subtopic HUM 1.2 — Situational awareness				
ADC HUM 1.2.1	Appreciate the effect of human information-processing factors on situational awareness.	3	*Optional content: workload, knowledge, interpersonal relations, distraction, confidence, experience, fatigue, stress*	ALL
Subtopic HUM 1.3 — Decision-making				
ADC HUM 1.3.1	Appreciate the effect of human information-processing factors on decision-making.		*Optional content: workload, stress, interpersonal relations, distraction, confidence*	ALL

TOPIC HUM 2 — FACTORS AFFECTING HEALTH AND WELL-BEING				
Subtopic HUM 2.1 — Fatigue				
ADC HUM 2.1.1	Describe the onset of fatigue.	2	Regulation (EU) 2017/373 *Optional content: lack of concentration, listlessness, irritability, frustration, Skybrary Human Behaviour: EUROCONTROL Fatigue and sleep management*	ALL
ADC HUM 2.1.2	Recognise the onset of fatigue in self and in others.	1	*Optional content: Skybrary Human Behaviour: EUROCONTROL Fatigue and sleep management*	ALL
ADI (TWR) HUM 2.1.3	Describe the appropriate action when recognising fatigue.	2	*Optional content: Skybrary Human Behaviour: EUROCONTROL Fatigue and sleep management*	ALL
Subtopic HUM 2.2 — Stress				
ADC HUM 2.2.1	Recognise the effects of stress on human performance.	1	Stress and its symptoms in self and in others *Optional content: Regulation (EU) 2017/373*	ALL
ADC HUM 2.2.2	Describe the appropriate action when recognising stress.	2		ALL
ADC HUM 2.2.3	Act to reduce stress.	3		ALL
ADC HUM 2.2.4	Respond to stressful situations by offering, asking for or accepting assistance.	3		ALL
ADC HUM	Recognise the effects of stressful events.	1	Self and others, abnormal situations	ALL

TOPIC HUM 2 — FACTORS AFFECTING HEALTH AND WELL-BEING				
2.2.5				

TOPIC HUM 3 — THREAT AND ERROR MANAGEMENT				
Subtopic HUM 3.1 — Threat and error management framework				
ADC HUM 3.1.1	Explain the importance of threat and error management.	2	*Optional content: prevention of incidents, safety improvement, revision of procedures and/or working practices*	ALL
ADC HUM 3.1.2	Explain the threat and error management framework.	2	Threats, errors, undesired states, countermeasures *Optional content: ICAO Circular 314 — AN/178 Threat and Error Management (TEM) in Air Traffic Control*	ALL
ADC HUM 3.1.3	Differentiate between the different types of threats in ATC.	2	Internal, external, airborne, environmental *Optional content: ICAO Circular 314 — AN/178 Threat and Error Management (TEM) in Air Traffic Control*	ALL
ADC HUM 3.1.4	Differentiate between the different types of errors in ATC.	2	Equipment, procedural, communication *Optional content: Increase in traffic, changes in procedures, complexities of systems or traffic, weather, unusual occurrences*	ALL
ADC HUM 3.1.5	Differentiate between the different types of undesired states.	2	On the ground, airborne *Optional content: ICAO Circular 314 — AN/178 Threat and Error Management (TEM) in Air Traffic Control*	ALL
ADC HUM 3.1.6	Analyse examples of threat and error management in ATC.	4	Case studies *Optional content: ICAO Circular 314 — AN/178 Threat and Error Management (TEM) in Air Traffic Control*	ALL
Subtopic HUM 3.2 — Application of threat and error management				
ADC HUM 3.2.1	Manage threats.	4	Detect and respond *Optional content: ICAO Circular 314 — AN/178 Threat and Error Management (TEM) in Air Traffic Control*	ALL
ADC HUM 3.2.2	Manage errors.	4	Detect and respond *Optional content: ICAO Circular 314 — AN/178 Threat and Error Management (TEM) in Air Traffic Control*	ALL
ADC HUM 3.2.3	Manage undesired states.	4	Detect and respond *Optional content: ICAO Circular 314 — AN/178 Threat and Error Management (TEM) in Air Traffic Control*	ALL

TOPIC HUM 4 — TEAMWORK				
Subtopic HUM 4.1 — Benefits of teamwork				
ADC HUM	State the benefits of teamwork.	1	Increased safety, efficiency and capacity	ALL

TOPIC HUM 4 — TEAMWORK				
4.1.1				
ADC HUM 4.1.2	List the controller's human performance elements affected by teamwork.	1	Situational awareness, communication, decision-making, threat and error management, workload management	ALL
Subtopic HUM 4.2 — Conflict management				
ADC HUM 4.2.1	Identify the reasons for conflict.	3		ALL
ADC HUM 4.2.2	Describe strategies to cope with human conflicts.	2	*Optional content: in your team, in the simulator*	ALL
ADC HUM 4.2.3	Describe actions to prevent human conflicts.	2		ALL

TOPIC HUM 5 —SYSTEMS				
Subtopic HUM 5.1 — Concept of systems in ATM/ANS				
ADC HUM 5.1.1	Explain the concept of systems.	2	People; procedures; equipment; ATM in system terms: simple, complicated, and complex systems; system thinking	ALL
ADC HUM 5.1.2	Describe how changes in one part of a system may impact the other parts.	2		ALL
ADC HUM 5.1.3	Describe the role of the human in the system.	2		ALL

TOPIC HUM 6 — COMMUNICATION				
Subtopic HUM 6.1 — Effective communication				
ADC HUM 6.1.1	Explain effective communication in ATC operations.	2	ICAO Doc 9868	ALL
ADC HUM 6.1.2	Explain key strategies used to enable open communication.	2	*Optional content: active listening, active speaking, assertiveness, honesty, relevance, facts, neutrality*	ALL
ADC HUM 6.1.3	Describe the parameters affecting the controller's competence to communicate effectively.	2	Workload, mutual knowledge, controller versus pilot mental picture, distractions, sound, human conflicts *Optional content: communication between and within the team(s), in the simulator, with the pilots, instructors, coordination partners*	ALL
Subtopic HUM 6.2 — Effective feedback				
ADC HUM 6.2.1	Define feedback.	1		ALL

TOPIC HUM 6 — COMMUNICATION				
ADC HUM 6.2.2	Explain the purpose of receiving and giving feedback, and its effect on performance.	2		ALL
ADC HUM 6.2.3	Consider the impact of communication styles on feedback and on conflict resolution.	2		ALL
ADC HUM 6.2.4	Integrate feedback into performance.	4		ALL

SUBJECT 7: EQUIPMENT AND SYSTEMS

TOPIC EQPS 1 — VOICE COMMUNICATIONS				
Subtopic EQPS 1.1 — Radio communications				
ADC EQPS 1.1.1	Operate two-way communication equipment.	3	Transmit/receive switches, procedures *Optional content: frequency selection, standby equipment*	ALL
ADC 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				
ADC 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)				
ADC EQPS 2.1.1	Decode AFTN messages.	3	*Optional content: movement and control messages, NOTAMs, SNOWTAMs, BIRDTAMs, etc.*	ALL
Subtopic EQPS 2.2 — Automatic data interchange				
ADC EQPS 2.2.1	Use automatic data transfer equipment where available.	3	*Optional content: sequencing systems, automated information and coordination, OLDI*	ADC APS ACS
ADC EQPS 2.2.2	Explain operational application of CPDLC for departure clearance (DCL) delivery and D-ATIS.	2	ICAO Doc 9694	ADC

TOPIC EQPS 3 — CONTROLLER WORKING POSITION				
Subtopic EQPS 3.1 — Operation and monitoring of equipment				
ADC EQPS 3.1.1	Monitor the technical integrity of the controller working position.	3	Notification procedures, responsibilities	ALL
ADC EQPS	Operate the equipment of the controller working position.	3	*Optional content: situation displays, flight progress board, flight data display, radio,*	ALL

TOPIC EQPS 3 — CONTROLLER WORKING POSITION				
3.1.2			*telephone, maps and charts, strip-printer, clock, information systems, UDF/VDF*	
ADC EQPS 3.1.3	Operate the available equipment in abnormal and emergency situations.	3		ALL
Subtopic EQPS 3.2 — Situation displays and information systems				
ADC EQPS 3.2.1	Use situation displays.	3		ALL
ADC EQPS 3.2.2	Check the availability of information.	3		ALL
ADC EQPS 3.2.3	Obtain information from equipment.	3	*Optional content: information from wind direction indicator*	ADC
ADC EQPS 3.2.4	Take account of anti-incursion equipment.	2		ADC
ADC EQPS 3.2.5	Explain the use of ASMGCS.	2		ADC
Subtopic EQPS 3.3 — Flight data systems				
ADC EQPS 3.3.1	Use the flight data information at the controller working position.	3		ALL

TOPIC EQPS 4 — FUTURE EQUIPMENT				
Subtopic EQPS 4.1 — New developments				
ADC EQPS 4.1.1	Recognise future developments.	1	New advanced systems *Optional content: European ATM Master Plan, European Plan for Aviation Safety*	ALL

TOPIC EQPS 5 — EQUIPMENT AND SYSTEMS' LIMITATIONS AND DEGRADATION				
Subtopic EQPS 5.1 — Reaction to limitations				
ADC EQPS 5.1.1	Take account of the limitations of equipment and systems.	2		ALL
ADC EQPS 5.1.2	Respond to technical deficiencies of the operational position.	3	Notification procedures, responsibilities	ALL
Subtopic EQPS 5.2 — Communication equipment degradation				
ADC EQPS 5.2.1	Identify that communication equipment has degraded.	3	*Optional content: ground–air, ground–ground and landline communications*	
ADC EQPS 5.2.2	Apply contingency procedures in the event of communication equipment degradation.	4	*Optional content: total or partial degradation of ground–air and landline communications; alternative methods of transferring data*	ALL

TOPIC EQPS 5 — EQUIPMENT AND SYSTEMS' LIMITATIONS AND DEGRADATION				
Subtopic EQPS 5.3 — Navigational equipment degradation				
ADC EQPS 5.3.1	Identify when a navigational equipment failure will affect operational ability.	3	*Optional content: navigational aids, 'European GNSS Contingency/Reversion Handbook for PBN Operations'*	ALL
ADC 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*	ALL

SUBJECT 8: PROFESSIONAL ENVIRONMENT

TOPIC PEN 1 — FAMILIARISATION				
Subtopic PEN 1.1 — Study visit to an aerodrome				
ADC PEN 1.1.1	Appreciate the functions and provision of operational aerodrome control services.	3	Study visit to a TWR	ADC

TOPIC PEN 2 — AIRSPACE USERS				
Subtopic PEN 2.1 — Contributors to civil ATS operations				
ADC PEN 2.1.1	Characterise civil ATS activities at an aerodrome.	2	Study visit to a TWR *Optional content: familiarisation visits to APP, ACC, AIS, RCC*	ADC
ADC PEN 2.1.2	Characterise other parties interfacing with ATS operations.	2	*Optional content: familiarisation visits to engineering services, firefighting and emergency services, airline operations offices*	ALL
Subtopic PEN 2.2 — Contributors to military ATS operations				
ADC 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				
ADC PEN 3.1.1	Appreciate the role of an air navigation service provider.	3	Regulation (EU) 2018/1139[1]	ALL
ADC PEN 3.1.2	Appreciate ATS users' requirements.	3		ALL

[1] Regulation (EU) 2018/1139 of the European Parliament and of the Council of 4 July 2018 on common rules in the field of civil aviation and establishing a European Union Aviation Safety Agency, and amending Regulations (EC) No 2111/2005, (EC) No 1008/2008, (EU) No 996/2010, (EU) No 376/2014 and Directives 2014/30/EU and 2014/53/EU of the European Parliament and of the Council, and repealing Regulations (EC) No 552/2004 and (EC) No 216/2008 of the European Parliament and of the Council and Council Regulation (EEC) No 3922/91.

TOPIC PEN 4 — ENVIRONMENTAL PROTECTION				
Subtopic PEN 4.1 — Environmental protection				
ADC PEN 4.1.1	Describe the environmental constraints on aerodrome operations.	2	*Optional content: ICAO Doc 10013 — Operational opportunities to reduce fuel burn and emissions*	ADC APP APS
ADC PEN 4.1.2	Explain the use of the Collaborative Environmental Management (CEM) process at aerodromes.	2	*Optional content: European ATM Master Plan, EUROCONTROL CEM Specification*	ADC APP APS
ADC 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, noise preferential routes, flight efficiency*	ADC APP

SUBJECT 9: ABNORMAL AND EMERGENCY SITUATIONS

TOPIC ABES 1 — ABNORMAL AND EMERGENCY SITUATIONS (ABES)				
Subtopic ABES 1.1 — Overview of ABES				
ADC 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, GNSS failure*	ALL
ADC ABES 1.1.2	Identify potential or actual abnormal and emergency situations.	3		ALL
ADC 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*	ADC
ADC 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
ADC 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				
ADC ABES 2.1.1	Ensure effective communication in all circumstances including the case where standard phraseology is not applicable.	4	Phraseology, vocabulary, readback, radio silence instruction	ALL
ADC ABES 2.1.2	Apply change of radiotelephony call sign.	3	Regulation (EU) No 923/2012 *Optional content: ICAO Doc 4444*	ALL
Subtopic ABES 2.2 — Avoidance of mental overload				

TOPIC ABES 2 — SKILLS IMPROVEMENT				
ADC ABES 2.2.1	Describe actions to keep the situation under control.	2	*Optional content: sector-splitting, holding, flow management, task delegation*	ALL
ADC ABES 2.2.2	Organise priority of actions.	4		ALL
ADC ABES 2.2.3	Ensure the effective dissemination 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
ADC ABES 2.2.4	Consider asking for help.	2		ALL
Subtopic ABES 2.3 — Air–ground cooperation				
ADC ABES 2.3.1	Collect appropriate information relevant to the situation.	3		ALL
ADC 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 (ABES)				
Subtopic ABES 3.1 — Application of procedures for ABES				
ADC 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				
ADC ABES 3.2.1	Describe the procedures to be followed by a pilot when experiencing complete or partial radio failure.	2	Regulation (EU) No 923/2012 *Optional content: ICAO Doc 4444, military procedures, simulator operation procedures*	ALL
ADC ABES 3.2.2	Apply the procedures to be followed when a pilot experiences complete or partial radio failure.	3	Regulation (EU) No 923/2012 *Optional content: prolonged loss of communication*	ALL
Subtopic ABES 3.3 — Unlawful interference and aircraft bomb threat				
ADC ABES 3.3.1	Apply ATC procedures associated with unlawful interference and aircraft bomb threat.	3	Regulation (EU) No 923/2012 *Optional content: simulator operation procedures*	ALL
Subtopic ABES 3.4 — Strayed or unidentified aircraft				
ADC ABES 3.4.1	Apply the procedures for strayed aircraft.	3	Regulation (EU) No 923/2012 *Optional content: inside controlled airspace, outside controlled airspace*	ALL
ADC ABES 3.4.2	Apply the procedures for unidentified aircraft.	3	Regulation (EU) No 923/2012	ALL
ADC 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*	ADC

TOPIC ABES 3 — PROCEDURES FOR ABNORMAL AND EMERGENCY SITUATIONS (ABES)				
			service or from other pilots, nearest most suitable aerodrome, track, heading, distance, aerodrome information, any other relevant navigational assistance, ICAO Doc 4444, etc.	
Subtopic ABES 3.5 — Runway incursion				
ADC ABES 3.5.1	Apply ATC procedures associated with runway incursion.	3	Regulation (EU) 2017/373 *Optional content: ICAO Doc 4444*	ADC
ABES 3.6 — Interception of civil aircraft				
ADC ABES 3.6.1	Explain the procedures in the event of interception of civil aircraft.	2	Regulation (EU) No 923/2012	*ALL*

SUBJECT 10: AERODROMES

TOPIC AGA 1 — AERODROME DATA, LAYOUT AND COORDINATION				
Subtopic AGA 1.1 — Definitions				
ADC AGA 1.1.1	Define aerodrome data.	1	Regulation (EU) No 139/20141 *Optional content: aerodrome elevation, reference point, apron, movement area, manoeuvring area, hotspot*	ADC APP APS
Subtopic AGA 1.2 — Coordination				
ADC AGA 1.2.1	Identify the information that has to be exchanged between ATS and the aerodrome authority.	3	Aerodrome conditions, fire/rescue category, condition of ground equipment and NAVAIDs, AIRAC, Regulation (EU) No 139/2014	ADC APP APS

TOPIC AGA 2 — MOVEMENT AREA				
Subtopic AGA 2.1 — Movement area				
ADC AGA 2.1.1	Describe the movement area.	2	Regulation (EU) No 139/2014	ADC APP APS
ADC AGA 2.1.2	Describe the marking of obstacles and unusable or unserviceable areas.	2	Flags, signs on pavement, lights	ADC APP APS
ADC AGA 2.1.3	Identify the information on conditions of the movement area that has to be passed on to aircraft.	3	Essential information on aerodrome conditions	ADC APP APS
Subtopic AGA 2.2 — Manoeuvring area				
ADC AGA 2.2.1	Describe the manoeuvring area.	2	Regulation (EU) No 139/2014	ADC APP APS

[1] 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).

TOPIC AGA 2 — MOVEMENT AREA				
ADC AGA 2.2.2	Describe the taxiway.	2		ADC APP APS
ADC AGA 2.2.3	Describe the daylight marking on taxiways.	2		ADC APP APS
ADC AGA 2.2.4	Describe taxiway lighting.	2		ADC APP APS
Subtopic AGA 2.3 — Runways				
ADC AGA 2.3.1	Describe the runway.	2	Runway, runway surface, runway strip, runway shoulder, runway-end safety areas, clearways, stopways	ADC APP APS
ADC AGA 2.3.2	Describe the instrument runway.	2	Regulation (EU) No 139/2014	ADC APP APS
ADC AGA 2.3.3	Describe the non-instrument runway.	2	Regulation (EU) No 139/2014	ADC APP APS
ADC AGA 2.3.4	Explain runway declared distances.	2	TORA, TODA, ASDA, LDA	ADC APP APS
ADC AGA 2.3.5	Explain the differences between ACN and PCN.	2	Strength of pavements	ADC APP APS
ADC 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*	ADC APP APS
ADC AGA 2.3.7	Describe runway lights.	2	*Optional content: colour, centre line, intensity, edge, touchdown zone, threshold, barettes*	ADC APP APS
ADC AGA 2.3.8	Explain the functions of visual landing aids.	2	*Optional content: AVASI, VASI, PAPI*	ADC APP APS
ADC AGA 2.3.9	Describe the approach lighting systems.	2	Centre line, cross bars, stroboscopic lights, colours, intensity and brightness	ADC APP APS
ADC AGA 2.3.10	Characterise the effect of water/ice on runways.	2		ADC APP APS
ADC AGA 2.3.11	Explain braking performance and methods of reporting it.	2		ADC APP APS
ADC AGA 2.3.12	Explain the effect of runway visual range on aerodrome operations.	2		ADC APP APS

TOPIC AGA 3 — OBSTACLES				
Subtopic AGA 3.1 — Obstacle-free airspace around aerodromes				
ADC AGA 3.1.1	Explain the necessity for establishing and maintaining airspace around aerodromes obstacle free.	2		ADC APP APS

TOPIC AGA 4 — MISCELLANEOUS EQUIPMENT				
Subtopic AGA 4.1 — Location				
ADC AGA 4.1.1	Explain the location of miscellaneous aerodrome ground equipment.	2	*Optional content: LOC, GP, VDF, radio communication or ATS surveillance systems sensors, stopbars, AVASI, VASI, PAPI*	ADC APP APS

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

APPROACH CONTROL PROCEDURAL (APP) RATING TRAINING — TOPICS, SUBTOPICS AND TRAINING OBJECTIVES

(a) The general principles that apply to this AMC are contained in AMC1 ATCO.D.010(a).

(b) The ATCO rating training Approach Control Procedural Rating (APP) should contain the following topics, subtopics and training objectives that are associated with the subjects contained in point ATCO.D.010(a)(2)(ii) Approach Control Procedural Rating (APP).

(c) Subjects from point ATCO.D.010(a)(2)(ii) are repeated in this AMC for the convenience of the reader and do not form part of it.

INTRODUCTION TO THE COURSE

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 how the course is administered.	1		ALL
Subtopic INTR 1.3 — Study material and training documentation				
APP INTR 1.3.1	Use appropriate documents 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 used during the course.	1	Theoretical training, practical training, self-study, types of training events	ALL
APP INTR 2.1.2	State the subjects covered by 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 1: AVIATION LAW

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[1] *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 an ATCO licence.	2	Regulation (EU) 2015/340	ALL

TOPIC LAW 2 — RULES AND REGULATIONS				
Subtopic LAW 2.1 — Reports				
APP LAW 2.1.1	Describe the functions of, and processes for, reporting.	2	Reporting culture, forms for mandatory and voluntary occurrence reporting,	ALL

[1] 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).

TOPIC LAW 2 — RULES AND REGULATIONS				
			Regulation (EU) No 376/2014[1], Regulation (EU) 2015/1018[2] *Optional content: breach of regulations, watchbook/logbook, records, voluntary reporting*	
APP LAW 2.1.2	Use forms for reporting.	3	Regulation (EU) No 376/2014, forms for mandatory and voluntary occurrence reporting *Optional content: routine air-reports, breach of regulations, watchbook/logbook, records*	ALL
Subtopic LAW 2.2 — Airspace				
APP LAW 2.2.1	Appreciate airspace classes and structure and their relevance to operations using the Approach Control Procedural rating.	3		APP
APP LAW 2.2.2	Provide planning, coordination and control actions appropriate to the classification and structure of given airspace.	4	*Optional content: Regulation (EU) No 923/2012[3], international requirements, civil requirements, military requirements, areas of responsibility, sectorisation, national requirements*	ALL
APP LAW 2.2.3	Appreciate responsibility for terrain clearance.	3		ALL

TOPIC LAW 3 — ATS 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, Regulation (EU) No 376/2014, 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
APP LAW 3.1.4	Appreciate the just culture concept.	3	Benefits, prerequisites, constraints *Optional content: Skybrary*	ALL
Subtopic LAW 3.2 — Safety investigation				

[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).

[2] Commission Implementing Regulation (EU) 2015/1018 of 29 June 2015 laying down a list classifying occurrences in civil aviation to be mandatorily reported according to Regulation (EU) No 376/2014 of the European Parliament and of the Council (OJ L 163, 30.6.2015, p. 1).

[3] 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).

TOPIC LAW 3 — ATS SAFETY MANAGEMENT				
APP LAW 3.2.1	Describe the role and objectives of safety investigation in the improvement of safety.	2		ALL

SUBJECT 2: AIR TRAFFIC MANAGEMENT

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, Regulation (EU) 2017/373[1], operating procedures for the simulated/training environment	APP APS
Subtopic ATM 1.2 — Flight information service (FIS)				
APP ATM 1.2.1	Provide FIS.	4	Regulation (EU) No 923/2012, Regulation (EU) 2017/373 *Optional content: national documents*	*ALL*
APP ATM 1.2.2	Issue appropriate information concerning the position of conflicting traffic.	3	Regulation (EU) No 923/2012, Regulation (EU) 2017/373, traffic information, essential traffic information	APP ACP *APS ACS*
APP ATM 1.2.3	Appreciate the use of ATIS in the provision of FIS.	3	Regulation (EU) No 923/2012	*ALL*
Subtopic ATM 1.3 — Alerting service (ALRS)				
APP ATM 1.3.1	Provide ALRS.	4	Regulation (EU) 2017/373, Regulation (EU) No 923/2012 *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 *Optional content: EUROCONTROL Guidelines for Controller Training in the Handling of Unusual/Emergency Situations, ICAO Doc 4444, national documents*	ALL
Subtopic ATM 1.4 — ATS system capacity and air traffic flow management (ATFM)				
APP ATM 1.4.1	Appreciate the impact of the ATS system capacity and air traffic flow management on the controller.	3	*Optional content: EUROCONTROL ATFCM Users Manual, FABs, FUA, free route airspace, local implementation of ATFCM principles, etc.*	APP ACP APS ACS

[1] Commission Implementing Regulation (EU) 2017/373 of 1 March 2017 laying down common requirements for providers of air traffic management/air navigation services and other air traffic management network functions and their oversight, repealing Regulation (EC) No 482/2008, Implementing Regulations (EU) No 1034/2011, (EU) No 1035/2011 and (EU) 2016/1377 and amending Regulation (EU) No 677/2011 (OJ L 62, 8.3.2017, p. 1).

TOPIC ATM 1 — PROVISION OF SERVICES				
APP ATM 1.4.2	Take account of flow management procedures in the provision of ATC.	2	*Optional content: EUROCONTROL ATFCM Users Manual*	APP APS
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 the supervisor of local factors affecting the ATS system capacity and air traffic flow management.	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 impact of ASM on the controller.	3	*Optional content: FABs, EUROCONTROL Specification for the application of FUA, TSAs, CDRs, CBAs, free route airspace*	APP ACP APS ACS
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	List the means of communication between controllers.	1	*Optional content: electronic, written, verbal and non-verbal communication*	ALL
APP ATM 2.1.2	Select the most suitable means of communication given the situation.	5		ALL
APP ATM 2.1.3	Use approved phraseology.	3	Regulation (EU) No 923/2012 *Optional content: published national/local language phraseology*	ALL
APP ATM 2.1.4	Ensure effective communication.	4	Use of plain language when required, communication within the sector/working position, between the sectors/WPs/ATC units readback/verification of readback	ALL
APP ATM 2.1.5	Analyse examples of pilot and controller communication for effectiveness.	4	*Optional content: real-life recordings, situation in the simulator*	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	Regulation (EU) No 923/2012, Regulation (EU) 2017/373 *Optional content: ICAO Doc 4444, national documents*	ALL
APP ATM 3.1.2	Integrate appropriate ATC clearances into the control service.	4		ALL
APP ATM 3.1.3	Ensure that 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	Regulation (EU) No 923/2012, Regulation (EU) 2017/373 *Optional content: ICAO Doc 4444, national documents*	ALL
APP ATM 3.2.2	Integrate appropriate ATC instructions into the control service.	4		ALL
APP ATM 3.2.3	Ensure that 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., Regulation (EU) 2017/373 *Optional content: release point*	ALL
APP ATM 4.3.2	Analyse the 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 that the agreed course of action is carried out.	4		ALL

TOPIC ATM 4 — COORDINATION				
APP ATM 4.3.5	Coordinate when providing FIS.	4	Regulation (EU) 2017/373 *Optional content: ICAO Doc 4444*	ALL
APP ATM 4.3.6	Coordinate when providing ALRS.	4	Regulation (EU) 2017/373 *Optional content: 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	Regulation (EU) No 923/2012	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 usable 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 — SEPARATION				
Subtopic ATM 6.1 — Vertical separation				
APP ATM 6.1.1	Provide standard vertical separation.	4	ICAO Doc 4444, Regulation (EU) No 923/2012, 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, Regulation (EU) No 923/2012 *Optional content: level allocation, during climb/descent, rate of climb/descent, degraded aircraft performance, non-RVSM aircraft, reported severe turbulence*	APP ACP APS ACS
APP ATM 6.1.3	Appreciate the application of emergency vertical separation.	3	Regulation (EU) No 923/2012, 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	Regulation (EU) 2017/373, based on time, based on distance (DME and/or GNSS, RNAV)	APP
APP ATM 6.2.2	Provide lateral separation.	4	Regulation (EU) 2017/373, holding	APP ACP
APP ATM 6.2.3	Provide track separation.	4		ACP APP

TOPIC ATM 6 — SEPARATION				
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	Regulation (EU) 2017/373	APP APS

TOPIC ATM 7 — AIRBORNE AND GROUND-BASED SAFETY NETS				
Subtopic ATM 7.1 — Airborne safety nets				
APP ATM 7.1.1	Recognise the independence of ACAS thresholds from ATC separation standards.	1	ICAO Doc 9863 *Optional content: Skybrary Safety Nets*	ALL
APP ATM 7.1.2	Describe the controller responsibility during and following an ACAS RA reported by the pilot.	2	Regulation (EU) No 923/2012 *Optional content: ICAO Doc 4444, ICAO Doc 9863, Skybrary Safety Nets*	ALL
APP ATM 7.1.3	Respond to pilot notification of actions based on airborne systems warnings.	3	ACAS *Optional content: TAWS, Skybrary Safety Nets*	APP APS ACP ACS

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, supplementary information Optional content: FPL, 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: local/simulator operation manuals, briefing, notices, current flight plan data/information displays, pilot reports, coordination, 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, letters of agreement (LoAs), NOTAMs, AICs*	ALL
APP ATM 9.2.2	Manage traffic in accordance with a change to operational procedures.	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
APP ATM 9.3.3	List possible actions to provide a safe position handover–takeover.	1	*Optional content: rigour, preparation, overlap time*	ALL
APP ATM 9.3.3	Explain the consequences of a missed position handover–takeover process.	2		ALL

TOPIC ATM 10 — PROVISION OF CONTROL SERVICE				
Subtopic ATM 10.1 — Responsibility for the provision of control service and the processing of information				
APP ATM 10.1.1	Describe the division of responsibility among air traffic control units.	2	Regulation (EU) 2017/373 *Optional content: 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	Regulation (EU) No 923/2012	*ALL*
APP ATM 10.1.4	Interpret operational information.	5		APP ACP APS ACS

TOPIC ATM 10 — PROVISION OF CONTROL SERVICE				
APP ATM 10.1.5	Organise forwarding of operational information.	4	*Optional content: including the use of backup procedures*	APP ACP APS ACS
APP ATM 10.1.6	Integrate operational information into control decisions.	4		APP ACP APS ACS
APP ATM 10.1.7	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	Regulation (EU) 2017/373 Regulation (EU) No 923/2012 *Optional content: local/simulator operation manuals*	APP
APP ATM 10.2.2	Provide planning, coordination and control actions appropriate to VFR, SVFR and IFR traffic in VMC and IMC.	4	Regulation (EU) No 923/2012, Regulation (EU) 2017/373, 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		*ALL*
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 the adequate prioritisation of actions.	4		*ALL*
APP ATM 10.3.7	Execute the selected plan in a timely manner.	3		*ALL*
APP ATM 10.3.8	Ensure that 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	*Optional content: simulator operation procedures*	APP ACP APS ACS

TOPIC ATM 10 — PROVISION OF CONTROL SERVICE				
APP ATM 10.4.2	Balance the workload against personal capacity.	5	*Optional content: rerouting, replanning, 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 10.4.4	Initiate missed approach.	3	Regulation (EU) No 923/2012, Regulation (EU) 2017/373 *Optional content: Skybrary*	APP *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, Regulation (EU) No 923/2012, Regulation (EU) 2017/373, 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	Issue Expected Approach Times (EATs).	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 3: METEOROLOGY

TOPIC MET 1 — METEOROLOGICAL PHENOMENA				
Subtopic MET 1.1 — Meteorological phenomena				
APP MET 1.1.1	Appreciate the impact of adverse weather on aircraft.	3	Thunderstorms, icing, clear-air turbulence (CAT), turbulence, microburst, wind shear, severe mountain waves, squall lines, volcanic ash	APP APS
APP MET 1.1.2	Integrate data about meteorological phenomena into the provision of ATS.	4	Clearances, instructions and transmitted information *Optional content: relevant meteorological phenomena*	*ALL*

TOPIC MET 1 — METEOROLOGICAL PHENOMENA				
APP MET 1.1.3	Use techniques to avoid adverse weather when necessary/possible.	3	Rerouting, 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/special AIREP*	APP ACP APS ACS
APP MET 2.1.2	Decode information form meteorological data displays.	3		*ALL*
APP MET 2.1.3	Relay meteorological information.	3	ICAO Doc 4444, Regulation (EU) No 923/2012 *Optional content: flight information centre, adjacent ATS unit*	*ALL*

SUBJECT 4: NAVIGATION

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 & STAR charts, aerodrome charts *Optional content: visual approach charts, military maps and charts*	ADC APP APS
APP NAV 1.1.2	Use relevant maps and charts.	3		*ALL*

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, availability and status of ground-based and satellite-based systems*	APP ACP APS ACS
APP NAV 2.1.2	Appreciate the effect of a change in the operational status of navigational systems.	3	*Optional content: precision, limitations, status, degraded procedures*	*ALL*
Subtopic NAV 2.2 — Stabilised approach				
APP NAV 2.2.1	Describe the concept of stabilised approach.	2	*Optional content: Skybrary*	ADC APP APS

TOPIC NAV 2 — INSTRUMENT NAVIGATION				
APP NAV 2.2.2	Appreciate the effect of late change of runway-in-use or type of approach for landing aircraft.	3	Cockpit workload *Optional content: impact on vertical profile (CDO), FMS management, crew procedure briefing, missed approach, loss of situational awareness, etc.*	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				
APP NAV 2.3.1	Describe relevant SIDs and STARs.	2		APP APS
APP NAV 2.3.2	Describe the types and phases of instrument approach procedures.	2	Regulation (EU) 2017/373, ICAO Annex 6	APP APS
APP NAV 2.3.3	Describe the relevant minima applicable for a precision/non-precision and visual approach.	2	*Optional content: Type A/B operations, CAT I/II/III criteria, LNAV, LNAV/VNAV, LPV, RNP AR APCH minima*	ADC 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	RNP APCH, RNP AR APCH, SBAS, GBAS *Optional content: LNAV, LNAV/VNAV, LPV, RNP minima, precision approach*	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 RNP 1 with RF, rotorcraft option RNP 0.3 *Optional content: ICAO Doc 9613, Regulation (EU) No 716/2014[1], Regulation (EU) 2018/1048[2]*	APP APS
APP NAV 2.6.2	Explain the principles and designation of navigation specifications in use.	2	Performance, functionality, sensors *Optional content: aircrew and controller requirements, accuracy requirements, integrity and continuity*	APP *ACP* APS *ACS*
APP NAV 2.6.3	Describe the differences in turn performance.	2	*Optional content: fly-by, fly-over, RF, ICAO Doc 4444*	APP APS
APP NAV 2.6.4	State future PBN developments.	1	A-RNP, RNP (AR) DEP *Optional content: RNP 3D, VNAV, 4D, TBO*	*ALL*

[1] Commission Implementing Regulation (EU) No 716/2014 of 27 June 2014 on the establishment of the Pilot Common Project supporting the implementation of the European Air Traffic Management Master Plan (OJ L 190, 28.6.2014, p. 19).

[2] Commission Implementing Regulation (EU) 2018/1048 of 18 July 2018 laying down airspace usage requirements and operating procedures concerning performance-based navigation (OJ L 189, 26.7.2018, p. 3).

SUBJECT 5: AIRCRAFT

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 into 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 succeeding aircraft.	2		ALL
APP ACFT 2.1.2	Appreciate the techniques used to prevent hazards associated with wake turbulence to succeeding aircraft.	3		ALL
Subtopic ACFT 2.2 — Application of the ICAO approach categories				
APP ACFT 2.2.1	Describe the use of the ICAO approach categories.	2	ICAO Doc 8168	ADC APP APS
APP ACFT 2.2.2	Appreciate the effect of the ICAO approach categories on the traffic organisation.	3		ADC 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	Describe the influence of factors affecting departing aircraft.	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	*Optional content: level, cruising speed, wind, mass, cabin pressurisation*	APP APS
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				

TOPIC ACFT 3 — FACTORS AFFECTING AIRCRAFT PERFORMANCE				
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*
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 considerations.	3	*Optional content: fuel-dumping, noise-abatement procedures, minimum flight levels, bird strike 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 control service.	4	Performance data under a representative variety of circumstances	APP ACP APS ACS

SUBJECT 6: HUMAN FACTORS

TOPIC HUM 1 — INFORMATION PROCESSING				
Subtopic HUM 1.1 — Cognition and factors influencing it				
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
Subtopic HUM 1.2 — Situational awareness				
APP HUM 1.2.1	Appreciate the effect of human information-processing factors on situational awareness.	3	*Optional content: workload, knowledge, interpersonal relations, distraction, confidence, experience, fatigue, stress*	ALL
Subtopic HUM 1.3 — Decision-making				
APP HUM 1.3.1	Appreciate the effect of human information-processing factors on decision-making.	3	*Optional content: workload, stress, interpersonal relations, distraction, confidence*	ALL

TOPIC HUM 2 — FACTORS AFFECTING HEALTH AND WELL-BEING				
Subtopic HUM 2.1 — Fatigue				
APP HUM 2.1.1	Describe the onset of fatigue.	2	Regulation (EU) 2017/373 *Optional content: lack of concentration, listlessness, irritability, frustration, Skybrary Human Behaviour: EUROCONTROL Fatigue and sleep management*	ALL
APP HUM 2.1.2	Recognise the onset of fatigue in self and in others.	1	*Optional content: Skybrary Human Behaviour: EUROCONTROL Fatigue and sleep management*	ALL
APP HUM 2.1.3	Describe the appropriate action when recognising fatigue.	2	*Optional content: Skybrary Human Behaviour: EUROCONTROL Fatigue and sleep management*	ALL
Subtopic HUM 2.2 — Stress				
APP HUM 2.2.1	Recognise the effects of stress on human performance.	1	Stress and its symptoms in self and in others *Optional content: Regulation (EU) 2017/373*	ALL
APP HUM 2.2.2	Describe the appropriate action when recognising stress.	2		ALL
APP HUM 2.2.3	Act to reduce stress.	3		ALL
APP HUM 2.2.4	Respond to stressful situations by offering, asking for or accepting assistance.	3		ALL
APP HUM 2.2.5	Recognise the effect of stressful events.	1	Self and others, abnormal situations	ALL

TOPIC HUM 3 — THREAT AND ERROR MANAGEMENT				
Subtopic HUM 3.1 — Threat and error management framework				
APP HUM 3.1.1	Explain the importance of threat and error management.	2	*Optional content: prevention of incidents, safety improvement, revision of procedures and/or working practices*	ALL
APP HUM 3.1.2	Explain the threat and error management framework.	2	Threats, errors, undesired states, countermeasures *Optional content: ICAO Circular 314 — AN/178 Threat and Error Management (TEM) in Air Traffic Control*	ALL
APP HUM 3.1.3	Differentiate between the different types of threats in ATC.	2	Internal, external, airborne, environmental *Optional content: ICAO Circular 314 — AN/178 Threat and Error Management (TEM) in Air Traffic Control*	ALL
APP HUM	Differentiate between the different types of errors in ATC.	2	Equipment, procedural, communication	ALL

TOPIC HUM 3 — THREAT AND ERROR MANAGEMENT				
3.1.4			*Optional content: increase in traffic, changes in procedures, complexities of systems or traffic, weather, unusual occurrences*	
APP HUM 3.1.5	Differentiate between the different types of undesired states.	2	On the ground, airborne *Optional content: ICAO Circular 314 — AN/178 Threat and Error Management (TEM) in Air Traffic Control*	ALL
APP HUM 3.1.6	Analyse examples of threat and error management in ATC.	4	Case studies *Optional content: ICAO Circular 314 — AN/178 Threat and Error Management (TEM) in Air Traffic Control*	ALL
Subtopic HUM 3.2 — Application of threat and error management				
APP HUM 3.2.1	Manage threats.	4	Detect and respond *Optional content: ICAO Circular 314 — AN/178 Threat and Error Management (TEM) in Air Traffic Control*	ALL
APP HUM 3.2.2	Manage errors.	4	Detect and respond *Optional content: ICAO Circular 314 — AN/178 Threat and Error Management (TEM) in Air Traffic Control*	ALL
APP HUM 3.2.3	Manage undesired states.	4	Detect and respond *Optional content: ICAO Circular 314 — AN/178 Threat and Error Management (TEM) in Air Traffic Control*	ALL

TOPIC HUM 4 — TEAMWORK				
Subtopic HUM 4.1 — Benefits of teamwork				
APP HUM 4.1.1	State the benefits of teamwork.	1	Increased safety, efficiency and capacity	ALL
APP HUM 4.1.2	List the controller's human performance elements affected by teamwork.	1	Situational awareness, communication, decision-making, threat and error management, workload management	ALL
Subtopic HUM 4.2 — Conflict management				
APP HUM 4.2.1	Identify the reasons for conflict.	3		ALL
APP HUM 4.2.2	Describe strategies to cope with human conflicts.	2	*Optional content: in your team, in the simulator*	ALL
APP HUM 4.2.3	Describe actions to prevent human conflicts.	2		ALL

TOPIC HUM 5 — SYSTEMS				
Subtopic HUM 5.1 — Concept of systems in ATM/ANS				
APP HUM 5.1.1	Explain the concept of systems.	2	People; procedures; equipment; ATM in system terms: simple, complicated, and complex systems; system thinking	ALL
APP HUM 5.1.2	Describe how changes in one part of a system may impact the other parts.	2		ALL
APP HUM 5.1.3	Describe the role of the human in the system.	2		ALL

TOPIC HUM 6 — COLLABORATIVE WORK				
Subtopic HUM 6.1 — Effective communication				
APP HUM 6.1.1	Explain effective communication in ATC operations.	2	ICAO Doc 9868	ALL
APP HUM 6.1.2	Explain key strategies used to enable open communication.	2	*Optional content: active listening, active speaking, assertiveness, honesty, relevance, facts, neutrality*	ALL
APP HUM 6.1.3	Describe the parameters affecting the controller's competence to communicate effectively.	2	Workload, mutual knowledge, controller versus pilot mental picture, distractions, sound, human conflicts *Optional content: communication between and within the team(s), in the simulator, with the pilots, instructors, coordination partners*	ALL
Subtopic HUM 6.2 — Effective feedback				
APP HUM 6.2.1	Define feedback.	1		ALL
APP HUM 6.2.2	Explain the purpose of receiving and giving feedback, and its effect on performance.	2		ALL
APP HUM 6.2.3	Consider the impact of communication styles on feedback and on conflict resolution.	2		ALL
APP HUM 6.2.4	Integrate feedback into performance.	4		ALL

SUBJECT 7: EQUIPMENT AND SYSTEMS

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 the 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 the availability of information.	3		ALL

TOPIC EQPS 3 — CONTROLLER WORKING POSITION				
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 the 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 *Optional content: European ATM Master Plan, European Plan for Aviation Safety*	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	*Optional content: procedures for total or partial degradation of ground–air and landline communications, alternative methods of transferring data*	ALL
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: navigational aids, 'European GNSS Contingency/Reversion Handbook for PBN Operations'*	ALL
APP EQPS 5.3.2	Apply contingency procedures in the event of navigational equipment degradation.	3	*Optional content: vertical separation, information to aircraft, navigational assistance, seeking assistance from adjacent units*	ALL

SUBJECT 8: PROFESSIONAL ENVIRONMENT

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 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 the 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, firefighting 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	Appreciate the role of an air navigation service provider.	3	Regulation (EU) 2018/1139	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 4.1.1	Describe the environmental constraints on aerodrome operations.	2	*Optional content: ICAO Doc 10013 — Operational opportunities to reduce fuel burn and emissions*	ADC APP APS
APP PEN 4.1.2	Explain the use of the Collaborative Environmental Management (CEM) process at aerodromes.	2	*Optional content: European ATM Master Plan, EUROCONTROL CEM Specification*	ADC APP APS
APP 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, noise preferential routes, flight efficiency*	ADC APP

SUBJECT 9: 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, GNSS failure*	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, radio silence instruction	ALL
APP ABES 2.1.2	Apply change of radiotelephony call sign.	3	Regulation (EU) No 923/2012 *Optional content: ICAO Doc 4444*	ALL
Subtopic ABES 2.2 — Avoidance of mental overload				
APP ABES 2.2.1	Describe actions to keep the situation under control.	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 the effective dissemination 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				

TOPIC ABES 2 — SKILLS IMPROVEMENT				
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 (ABES)				
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 to be followed by a pilot experiencing complete or partial radio failure.	2	Regulation (EU) No 923/2012 *Optional content: ICAO Doc 4444, military procedures, simulator operation procedures*	ALL
APP ABES 3.2.2	Apply the procedures to be followed when a pilot experiences complete or partial radio failure.	3	Regulation (EU) No 923/2012 *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	Regulation (EU) No 923/2012 *Optional content: simulator operation procedures*	ALL
Subtopic ABES 3.4 — Strayed or unidentified aircraft				
APP ABES 3.4.1	Apply the procedures for strayed aircraft.	3	Regulation (EU) No 923/2012 *Optional content: inside controlled airspace, outside controlled airspace*	ALL
APP ABES 3.4.2	Apply the procedures for unidentified aircraft.	3	Regulation (EU) No 923/2012	ALL
Subtopic ABES 3.5 — Diversion				
APP ABES 3.5.1	Provide navigational assistance to aircraft diverting in emergency.	4	Track/heading, distance, other navigational assistance *Optional content: nearest most suitable aerodrome*	APP ACP APS ACS
Subtopic ABES 3.6— Interception of civil aircraft				
APP ABES 3.6.1	Explain the procedures for interception of civil aircraft.	2	Regulation (EU) No 923/2012	*ALL*

SUBJECT 10: 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 139/20141 *Optional content: aerodrome elevation, reference point, apron, movement area, manoeuvring area, hotspot*	ADC APP APS
Subtopic AGA 1.2 — Coordination				
APP AGA 1.2.1	Identify the information that has to be exchanged between ATS and the aerodrome authority.	3	Aerodrome conditions, fire/rescue category, condition of ground equipment and NAVAIDs, AIRAC, Regulation (EU) No 139/2014	ADC APP APS

TOPIC AGA 2 — MOVEMENT AREA				
Subtopic AGA 2.1 — Movement area				
APP AGA 2.1.1	Describe the movement area.	2	Regulation (EU) No 139/2014	ADC APP APS
APP AGA 2.1.2	Describe the marking of obstacles and unusable or unserviceable areas.	2	Flags, signs on pavement, lights	ADC APP APS
APP AGA 2.1.3	Identify the information on conditions of the movement area that has to be passed on to aircraft.	3	Essential information on aerodrome conditions	ADC APP APS
Subtopic AGA 2.2 — Manoeuvring area				
APP AGA 2.2.1	Describe the manoeuvring area.	2	Regulation (EU) No 139/2014	ADC APP APS
APP AGA 2.2.2	Describe the taxiway.	2		ADC APP APS
APP AGA 2.2.3	Describe the daylight marking on taxiways.	2		ADC APP APS
APP AGA 2.2.4	Describe taxiway lighting.	2		ADC APP APS
Subtopic AGA 2.3 — Runways				
APP AGA 2.3.1	Describe the runway.	2	Runway, runway surface, runway strip, shoulder, runway-end safety areas, clearways, stopways	ADC APP APS
APP AGA 2.3.2	Describe the instrument runway.	2	Regulation (EU) No 139/2014	ADC APP APS

[1] 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).

TOPIC AGA 2 — MOVEMENT AREA				
APP AGA 2.3.3	Describe the non-instrument runway.	2	Regulation (EU) No 139/2014	ADC APP APS
APP AGA 2.3.4	Explain declared distances.	2	TORA, TODA, ASDA, LDA	ADC APP APS
APP AGA 2.3.5	Explain the differences between ACN and PCN.	2	Strength of pavements	ADC 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*	ADC APP APS
APP AGA 2.3.7	Describe runway lights.	2	*Optional content: colour, centre line, intensity, edge, touchdown zone, threshold, barettes*	ADC APP APS
APP AGA 2.3.8	Explain the functions of visual landing aids.	2	*Optional content: AVASI, VASI, PAPI*	ADC APP APS
APP AGA 2.3.9	Describe the approach lighting systems.	2	Centre line, cross bars, stroboscopic lights, colours, intensity and brightness	ADC APP APS
APP AGA 2.3.10	Characterise the effect of water/ice on runways.	2		ADC APP APS
APP AGA 2.3.11	Explain braking performance and methods of reporting it.	2		ADC APP APS
APP AGA 2.3.12	Explain the effect of runway visual range on aerodrome operations.	2		ADC 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 airspace around aerodromes obstacle free.	2		ADC APP APS

TOPIC AGA 4 — MISCELLANEOUS EQUIPMENT				
Subtopic AGA 4.1 — Location				
APP AGA 4.1.1	Explain the location of miscellaneous aerodrome ground equipment.	2	*Optional content: LOC, GP, VDF, radio communication or ATS surveillance systems sensors, stopbars, AVASI, VASI, PAPI*	ADC APP APS

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

AREA CONTROL PROCEDURAL (ACP) RATING TRAINING — TOPICS, SUBTOPICS AND TRAINING OBJECTIVES

(a) The general principles that apply to this AMC are contained in AMC1 ATCO.D.010(a).

(b) The ATCO rating training Area Control Procedural Rating (ACP) should contain the following topics, subtopics and training objectives that are associated with the subjects contained in point ATCO.D.010(a)(2)(iii) Area Control Procedural Rating (ACP).

(c) Subjects from point ATCO.D.010(a)(2)(iii) are repeated in this AMC for the convenience of the reader and do not form part of it.

INTRODUCTION TO THE COURSE

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 how the course is administered.	1		ALL
Subtopic INTR 1.3 — Study material and training documentation				
ACP INTR 1.3.1	Use appropriate documents 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 used during the course.	1	Theoretical training, practical training, self-study, types of training events	ALL
ACP INTR 2.1.2	State the subjects covered by 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				

TOPIC INTR 2 — INTRODUCTION TO THE ATC TRAINING COURSE				
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 1: AVIATION LAW

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[1] *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 the suspension/ revocation of an ATCO licence.	2	Regulation (EU) 2015/340	ALL

TOPIC LAW 2 — RULES AND REGULATIONS				
Subtopic LAW 2.1 — Reports				
ACP LAW 2.1.1	Describe the functions of, and processes for, reporting.	2	Reporting culture, forms for mandatory and voluntary occurrence reporting, Regulation (EU) No 376/2014[2], Regulation (EU) 2015/1018[3] *Optional content: breach of regulations, watchbook/logbook, records, voluntary reporting*	ALL
ACP LAW 2.1.2	Use forms for reporting.	3	Regulation (EU) No 376/2014, forms for mandatory and voluntary occurrence reporting	ALL

[1] 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).

[2] 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).

[3] Commission Implementing Regulation (EU) 2015/1018 of 29 June 2015 laying down a list classifying occurrences in civil aviation to be mandatorily reported according to Regulation (EU) No 376/2014 of the European Parliament and of the Council (OJ L 163, 30.6.2015, p. 1).

TOPIC LAW 2 — RULES AND REGULATIONS				
			Optional content: routine air-reports, breach of regulations, watchbook/logbook, records	
Subtopic LAW 2.2 — Airspace				
ACP LAW 2.2.1	Appreciate airspace classes and structure and their relevance to operation using the Area Control Procedural rating.	3		ACP
ACP LAW 2.2.2	Provide planning, coordination and control actions appropriate to the classification and structure of given airspace.	4	*Optional content: Regulation (EU) No 923/2012[1], international requirements, civil requirements, military requirements, areas of responsibility, sectorisation, national requirements*	ALL
ACP LAW 2.2.3	Appreciate responsibility for terrain clearance.	3		ALL

TOPIC LAW 3 — ATS 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: Regulation (EU) No 376/2014, 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: Skybrary*	ALL
Subtopic LAW 3.2 — Safety investigation				
ACP LAW 3.2.1	Describe the role and objectives of safety investigation in the improvement of safety.	2		ALL

[1] 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 2: AIR TRAFFIC MANAGEMENT

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, Regulation (EU) 2017/373[1], operating procedures for the simulated/training environment	ACP ACS
Subtopic ATM 1.2 — Flight information service (FIS)				
ACP ATM 1.2.1	Provide FIS.	4	Regulation (EU) No 923/2012, Regulation (EU) 2017/373 *Optional content: national documents*	*ALL*
ACP ATM 1.2.2	Issue appropriate information concerning the position of conflicting traffic.	3	Regulation (EU) No 923/2012, Regulation (EU) 2017/373, traffic information, essential traffic information	APP ACP *APS ACS*
ACP ATM 1.2.3	Appreciate the use of ATIS in the provision of FIS.	3	Regulation (EU) No 923/2012	*ALL*
Subtopic ATM 1.3 — Alerting service (ALRS)				
ACP ATM 1.3.1	Provide ALRS.	4	Regulation (EU) 2017/373, Regulation (EU) No 923/2012 *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 *Optional content: EUROCONTROL Guidelines for Controller Training in the Handling of Unusual/Emergency Situations, ICAO Doc 4444, national documents*	ALL
Subtopic ATM 1.4 — ATS system capacity and air traffic flow management (ATFM)				
ACP ATM 1.4.1	Appreciate the impact of the ATS system capacity and air traffic flow management on the controller.	3	*Optional content: EUROCONTROL ATFCM Users Manual, FABs, FUA, free route airspace, local implementation of ATFCM principles, etc.*	ACP ACS
ACP ATM 1.4.2	Apply flow management procedures in the provision of ATC.	3	*Optional content: EUROCONTROL ATFCM Users Manual*	ACP ACS

[1] Commission Implementing Regulation (EU) 2017/373 of 1 March 2017 laying down common requirements for providers of air traffic management/air navigation services and other air traffic management network functions and their oversight, repealing Regulation (EC) No 482/2008, Implementing Regulations (EU) No 1034/2011, (EU) No 1035/2011 and (EU) 2016/1377 and amending Regulation (EU) No 677/2011 (OJ L 62, 8.3.2017, p. 1).

TOPIC ATM 1 — PROVISION OF SERVICES				
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 the supervisor of local factors affecting the ATS system capacity and air traffic flow management.	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 impact of ASM on the controller.	3	*Optional content: FABs, EUROCONTROL Specification for the application of FUA, TSAs, CDRs, CBAs, free route airspace*	APP ACP APS ACS
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	List the means of communication between controllers.	1	*Optional content: electronic, written, verbal and non-verbal communication*	ALL
ACP ATM 2.1.2	Select the most suitable means of communication given the situation.	5		ALL
ACP ATM 2.1.3	Use approved phraseology.	3	Regulation (EU) No 923/2012 *Optional content: published national/local language phraseology*	ALL
ACP ATM 2.1.4	Ensure effective communication.	4	Use of plain language when required, communication within the sector/working position, between the sectors/WPs/ATC units readback/verification of readback	ALL
ACP ATM 2.1.5	Analyse examples of pilot and controller communication for effectiveness.	4	*Optional content: real-life recordings, situation in the simulator*	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	Regulation (EU) No 923/2012, Regulation (EU) 2017/373 *Optional content: ICAO Doc 4444, national documents*	ALL
ACP ATM 3.1.2	Integrate appropriate ATC clearances into the control service.	4		ALL
ACP ATM 3.1.3	Ensure that 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	Regulation (EU) No 923/2012, Regulation (EU) 2017/373 *Optional content: ICAO Doc 4444, national documents*	ALL
ACP ATM 3.2.2	Integrate appropriate ATC instructions into the control service.	4		ALL
ACP ATM 3.2.3	Ensure that 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., Regulation (EU) 2017/373 *Optional content: release point*	ALL
ACP ATM 4.3.2	Analyse the 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 that the agreed course of action is carried out.	4		ALL

TOPIC ATM 4 — COORDINATION				
ACP ATM 4.3.5	Coordinate when providing FIS.	4	Regulation (EU) 2017/373 *Optional content: ICAO Doc 4444*	ALL
ACP ATM 4.3.6	Coordinate when providing ALRS.	4	Regulation (EU) 2017/373 *Optional content: 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	Regulation (EU) No 923/2012	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 usable 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 — SEPARATION				
Subtopic ATM 6.1 — Vertical separation				
ACP ATM 6.1.1	Provide standard vertical separation.	4	ICAO Doc 4444, Regulation (EU) No 923/2012, 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, Regulation (EU) No 923/2012 *Optional content: level allocation, during climb/descent, rate of climb/descent, degraded aircraft performance, non-RVSM aircraft, reported severe turbulence*	APP ACP APS ACS
ACP ATM 6.1.3	Appreciate the application of emergency vertical separation.	3	Regulation (EU) No 923/2012, 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	Regulation (EU) 2017/373, 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	Regulation (EU) 2017/373, ICAO Doc 7030, holding	APP ACP

TOPIC ATM 6 — SEPARATION				
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 AND GROUND-BASED SAFETY NETS				
Subtopic ATM 7.1 — Airborne safety nets				
ACP ATM 7.1.1	Recognise the independence of ACAS thresholds from ATC separation standards.	1	ICAO Doc 9863 *Optional content: Skybrary Safety Nets*	ALL
ACP ATM 7.1.2	Describe the controller responsibility during and following an ACAS RA reported by the pilot.	2	Regulation (EU) No 923/2012 *Optional content: ICAO Doc 4444, ICAO Doc 9863, Skybrary Safety Nets*	ALL
ACP ATM 7.1.3	Respond to pilot notification of actions based on airborne systems warnings.	3	ACAS *Optional content: TAWS, Skybrary Safety Nets*	APP APS ACP ACS

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, supplementary information *Optional content: FPL, 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: local/simulator operation manuals, briefing, notices, current flight plan data/information displays, pilot reports, coordination, verification of information*	ALL

TOPIC ATM 9 — OPERATIONAL ENVIRONMENT (SIMULATED)				
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, letters of agreement (LoAs), NOTAMs, AICs*	ALL
ACP ATM 9.2.2	Manage traffic in accordance with a change to operational procedures.	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
ACP ATM 9.3.3	List possible actions to provide a safe position handover–takeover.	1	*Optional content: rigour, preparation, overlap time*	ALL
ACP ATM 9.3.4	Explain the consequences of a missed position handover–takeover process.	2		ALL

TOPIC ATM 10 — PROVISION OF CONTROL SERVICE				
Subtopic ATM 10.1 — Responsibility for the provision of control service and the processing of information				
ACP ATM 10.1.1	Describe the division of responsibility among air traffic control units.	2	Regulation (EU) 2017/373 *Optional content: 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	Regulation (EU) No 923/2012	*ALL*
ACP ATM 10.1.4	Interpret operational information.	5		APP ACP APS ACS
ACP ATM 10.1.5	Organise forwarding of operational information.	4	*Optional content: including the use of backup procedures*	APP ACP APS ACS
ACP ATM 10.1.6	Integrate operational information into control decisions.	4		APP ACP APS ACS

TOPIC ATM 10 — PROVISION OF CONTROL SERVICE				
ACP ATM 10.1.7	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 area procedural control service.	2	Regulation (EU) 2017/373 Regulation (EU) No 923/2012 *Optional content: local/simulator operation manuals*	ACP
ACP ATM 10.2.2	Provide planning, coordination and control actions appropriate to VFR and IFR traffic in VMC and IMC.	4	Regulation (EU) No 923/2012, Regulation (EU) 2017/373, 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		*ALL*
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 the adequate prioritisation of actions.	4		*ALL*
ACP ATM 10.3.7	Execute the selected plan in a timely manner.	3		*ALL*
ACP ATM 10.3.8	Ensure that 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	*Optional content: simulator operation procedures*	APP ACP APS ACS
ACP ATM 10.4.2	Balance the workload against personal capacity.	5	*Optional content: rerouting, replanning, prioritising solutions, denying requests, delegating responsibility for separation*	APP ACP APS ACS

TOPIC ATM 11 — HOLDING				
Subtopic ATM 11.1 — Holding procedures				
ACP ATM 11.1.1	Apply holding procedures.	3	ICAO Doc 4444, Regulation (EU) No 923/2012, Regulation (EU) 2017/373, 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	Issue expected onward clearance times.	3		ACP ACS

SUBJECT 3: METEOROLOGY

TOPIC MET 1 — METEOROLOGICAL PHENOMENA				
Subtopic MET 1.1 — Meteorological phenomena				
ACP MET 1.1.1	Appreciate the impact of adverse weather on aircraft.	3	Thunderstorms, icing, jet streams, clear-air turbulence (CAT), turbulence, microburst, severe mountain waves, squall lines , volcanic ash *Optional content: solar radiation*	ACP ACS
ACP MET 1.1.2	Integrate data about meteorological phenomena into the 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	Rerouting, 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/ special AIREP*	APP ACP APS ACS
ACP MET 2.1.2	Decode information from meteorological data displays.	3		*ALL*
ACP MET 2.1.3	Relay meteorological information.	3	ICAO Doc 4444, Regulation (EU) No 923/2012 *Optional content: flight information centre, adjacent ATS unit*	*ALL*

SUBJECT 4: NAVIGATION

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		*ALL*
ACP NAV 1.1.2	Decode symbols and information displayed on aeronautical maps and charts.	3	En-route and area charts *Optional content: STAR charts*	ACP 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, availability and status of ground-based and satellite-based systems*	APP ACP APS ACS
ACP NAV 2.1.2	Appreciate the effect of a change in the operational status of navigational systems.	3	*Optional content: precision, 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 En-route-RNAV-5 *Optional content: A-RNP, Commission Implementing Regulation (EU) 2018/1048 (the PBN Regulation), ICAO Doc 9613*	ACP ACS
ACP NAV 2.3.2	Explain the principles and designation of navigation specifications in use.	2	Performance, functionalities, sensors *Optional content: aircrew and controller requirements, accuracy requirements, integrity and continuity*	*APP* ACP *APS* ACS
ACP NAV 2.3.3	Describe the differences in turn performance.	2	*Optional content: fly-by, fly-over, FRT, ICAO Doc 4444*	ACP ACS
ACP NAV 2.3.4	State future PBN developments.	1	A-RNP, RNP (AR) DEP *Optional content: RNP 3D, VNAV, 4D, TBO*	*ALL*

SUBJECT 5: AIRCRAFT

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 into 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 succeeding aircraft.	2		ALL
ACP ACFT 2.1.2	Appreciate the techniques used to prevent hazards associated with wake turbulence to 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	ACP 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
ACP ACFT 3.4.3	Use direct routing where applicable.	3		*APP* ACP *APS* ACS
Subtopic ACFT 3.5 — Environmental factors				

TOPIC ACFT 3 — FACTORS AFFECTING AIRCRAFT PERFORMANCE				
ACP ACFT 3.5.1	Appreciate the performance restrictions due to environmental considerations.	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 control service.	4	Performance data under a representative variety of circumstances	APP ACP APS ACS

SUBJECT 6: HUMAN FACTORS

TOPIC HUM 1 — INFORMATION PROCESSING				
Subtopic HUM 1.1 — Cognition and factors influencing it				
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
Subtopic HUM 1.2 – Situational awareness				
ACP HUM 1.2.1	Appreciate the effect of factors on human information-processing in relation to situational awareness.	3	*Optional content: workload, knowledge, interpersonal relations, distraction, confidence, experience, fatigue, stress*	ALL
Subtopic HUM 1.3 – Decision making				
ACP HUM 1.3.1	Appreciate the effect of factors on human information-processing in relation to decision-making.	3	*Optional content: workload, stress, interpersonal relations, distraction, confidence*	ALL

TOPIC HUM 2 — FACTORS AFFECTING HEALTH AND WELL-BEING				
Subtopic HUM 2.1 — Fatigue				
ACP HUM 2.1.1	Describe the onset of fatigue.	2	*Optional content: lack of concentration, listlessness, irritability, frustration, Skybrary Human Behaviour: EUROCONTROL Fatigue and sleep management*	ALL
ACP HUM 2.1.2	Recognise the onset of fatigue in self and in others.	1	*Optional content: Skybrary Human Behaviour: EUROCONTROL Fatigue and sleep management*	ALL
ACP HUM 2.1.3	Describe the appropriate action when recognising fatigue.	2	*Optional content: Skybrary Human Behaviour: EUROCONTROL Fatigue and sleep management*	ALL
Subtopic HUM 2.2 — Stress				

TOPIC HUM 2 — FACTORS AFFECTING HEALTH AND WELL-BEING				
ACP HUM 2.2.1	Recognise the effects of stress on human performance.	1	Stress and its symptoms in self and in others *Optional content: Regulation (EU) 2017/373*	ALL
ACP HUM 2.2.2	Describe the appropriate action when recognising stress.	2		ALL
ACP HUM 2.2.3	Act to reduce stress.	3		ALL
ACP HUM 2.2.4	Respond to a stressful situation by offering, asking for or accepting assistance.	3		ALL
ACP HUM 2.2.5	Recognise the effect of stressful events.	1	Self and others, abnormal situations	

TOPIC HUM 3 — THREAT AND ERROR MANAGEMENT				
Subtopic HUM 3.1 — Threat and error management framework				
ACP HUM 3.1.1	Explain the importance of threat and error management.	2	*Optional content: prevention of incidents, safety improvement, revision of procedures and/or working practices*	ALL
ACP HUM 3.1.2	Explain the threat and error management framework.	2	Threats, errors, undesired states, countermeasures *Optional content: ICAO Circular 314 — AN/178 Threat and Error Management (TEM) in Air Traffic Control*	ALL
ACP HUM 3.1.3	Differentiate between the different types of threats in ATC.	2	Internal, external, airborne, environmental *Optional content: ICAO Circular 314 — AN/178 Threat and Error Management (TEM) in Air Traffic Control*	ALL
ACP HUM 3.1.4	Differentiate between the different types of errors in ATC.	2	Equipment, procedural, communication *Optional content: increase in traffic, changes in procedures, complexities of systems or traffic, weather, unusual occurrences*	ALL
ACP HUM 3.1.5	Differentiate between the different types of undesired states.	2	On the ground, airborne *Optional content: ICAO Circular 314 — AN/178 Threat and Error Management (TEM) in Air Traffic Control*	ALL
ACP HUM 3.1.6	Analyse examples of threat and error management in ATC.	4	Case studies *Optional content: ICAO Circular 314 — AN/178 Threat and Error Management (TEM) in Air Traffic Control*	ALL
Subtopic HUM 3.2 — Application of threat and error management				
ACP HUM 3.2.1	Manage threats.	4	Detect and respond *Optional content: ICAO Circular 314 — AN/178 Threat and Error Management (TEM) in Air Traffic Control*	ALL

TOPIC HUM 3 — THREAT AND ERROR MANAGEMENT				
ACP HUM 3.2.2	Manage errors.	4	Detect and respond *Optional content: ICAO Circular 314 — AN/178 Threat and Error Management (TEM) in Air Traffic Control*	ALL
ACP HUM 3.2.3	Manage undesired states.	4	Detect and respond *Optional content: ICAO Circular 314 — AN/178 Threat and Error Management (TEM) in Air Traffic Control*	ALL

TOPIC HUM 4 — TEAMWORK				
Subtopic HUM 4.1 — Benefits of teamwork				
ACP HUM 4.1.1	State the benefits of teamwork.	1	Increased safety, efficiency and capacity	ALL
ACP HUM 4.1.2	List the controller's human performance elements affected by teamwork.	1	Situational awareness, communication, decision-making, threat and error management, workload management	ALL
Subtopic HUM 4.2 — Conflict management				
ACP HUM 4.2.1	Identify the reasons for conflict.	3		ALL
ACP HUM 4.2.2	Describe strategies to cope with human conflicts.	2	*Optional content: in your team, in the simulator*	ALL
ACP HUM 4.2.3	Describe actions to prevent human conflicts.	2		ALL

TOPIC HUM 5 — SYSTEMS				
Subtopic HUM 5.1 — Concept of systems in ATM/ANS				
ACP HUM 5.1.1	Explain the concept of systems.	2	People; procedures; equipment; ATM in system terms: simple, complicated, and complex systems; system thinking	ALL
ACP HUM 5.1.2	Describe how changes in one part of a system may impact the other parts.	2		ALL
ACP HUM 5.1.3	Describe the role of the human in the system.	2		ALL

TOPIC HUM 6 — COMMUNICATION				
Subtopic HUM 6.1 — Effective communication				
ACP HUM 6.1.1	Explain effective communication in ATC operations.	2	ICAO Doc 9868	ALL
ACP HUM 6.1.2	Explain key strategies used to enable open communication.	2	*Optional content: active listening, active speaking, assertiveness, honesty, relevance, facts, neutrality*	ALL

TOPIC HUM 6 — COMMUNICATION				
ACP HUM 6.1.3	Describe the parameters affecting the controller's competence to communicate effectively.	2	Workload, mutual knowledge, controller versus pilot mental picture, distractions, sounds, human conflicts *Optional content: communication between and within the team(s), in the simulator, with the pilots, instructors, coordination partners*	ALL
Subtopic HUM 6.2 — Effective feedback				
ACP HUM 6.2.1	Define feedback.	1		ALL
ACP HUM 6.2.2	Explain the purpose of receiving and giving feedback, and its effect on human performance.	2		ALL
ACP HUM 6.2.3	Consider the impact of communication styles on feedback and conflict resolution.	2		ALL
ACP HUM 6.2.4	Integrate feedback into performance.	4		ALL

SUBJECT 7: EQUIPMENT AND SYSTEMS

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, NOTAMs, SNOWTAMs, BIRDTAMs, etc.*	ALL
Subtopic EQPS 2.2 — Automatic data interchange				

TOPIC EQPS 2 — AUTOMATION IN ATS				
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.	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 the 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 *Optional content: European ATM Master Plan, European Plan for Aviation Safety*	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				

TOPIC EQPS 5 — EQUIPMENT AND SYSTEMS' LIMITATIONS AND 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	*Optional content: procedures for total or partial degradation of ground–air and landline communications, alternative methods of transferring data*	ALL
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: navigational aids, 'European GNSS Contingency/Reversion Handbook for PBN Operations'*	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*	ALL

SUBJECT 8: PROFESSIONAL ENVIRONMENT

TOPIC PEN 1 — FAMILIARISATION				
Subtopic PEN 1.1 — Study visit to an area control centre				
ACP PEN 1.1.1	Appreciate the functions and provision of operational area control service.	3	Study visit to an 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 an 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, firefighting 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	Appreciate the role of an air navigation service provider.	3	Regulation (EU) 2018/1139	ALL
ACP PEN	Appreciate ATS users' requirements.	3		ALL

TOPIC PEN 3 — CUSTOMER RELATIONS				
3.1.2				

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 Doc 10013 — Operational Opportunities to reduce fuel burn and emissions*	ACP

SUBJECT 9: 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, GNSS failure*	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, radio silence instruction	ALL
ACP ABES 2.1.2	Apply change of radiotelephony call sign.	3	Regulation (EU) No 923/2012 *Optional content: ICAO Doc 4444*	ALL
Subtopic ABES 2.2 — Avoidance of mental overload				

TOPIC ABES 2 — SKILLS IMPROVEMENT				
ACP ABES 2.2.1	Describe actions to keep the situation under control.	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 the effective dissemination 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 (ABES)				
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 to be followed by a pilot when experiencing complete or partial radio failure.	2	Regulation (EU) No 923/2012 *Optional content: ICAO Doc 4444, military procedures, simulator operation procedures*	ALL
ACP ABES 3.2.2	Apply the procedures to be followed when a pilot experiences complete or partial radio failure.	3	Regulation (EU) No 923/2012 *Optional content: prolonged loss of communication*	ALL
Subtopic ABES 3.3 — Unlawful interference and aircraft bomb threat				
ACP ABES 3.3.1	Apply the ATC procedures associated with unlawful interference and aircraft bomb threat.	3	Regulation (EU) No 923/2012 *Optional content: simulator operation procedures*	ALL
Subtopic ABES 3.4 — Strayed or unidentified aircraft				
ACP ABES 3.4.1	Apply the procedures for strayed aircraft.	3	Regulation (EU) No 923/2012 *Optional content: inside controlled airspace, outside controlled airspace*	ALL
ACP ABES 3.4.2	Apply the procedures for unidentified aircraft.	3	Regulation (EU) No 923/2012	ALL
Subtopic ABES 3.5 — Diversion				

TOPIC ABES 3 — PROCEDURES FOR ABNORMAL AND EMERGENCY SITUATIONS (ABES)				
ACP ABES 3.5.1	Provide navigational assistance to aircraft diverting in emergency.	4	Track/heading, distance, other navigational assistance *Optional content: nearest most suitable aerodrome*	APP ACP APS ACS
Subtopic ABES 3.6 — Interception of civil aircraft				
ACP ABES 3.6.1	Explain the procedures in the event of interception of civil aircraft.	2	Regulation (EU) No 923/2012	*ALL*

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

APPROACH CONTROL SURVEILLANCE (APS) RATING TRAINING — TOPICS, SUBTOPICS AND TRAINING OBJECTIVES

(a) The general principles that apply to this AMC are contained in AMC1 ATCO.D.010(a).

(b) The ATCO rating training Approach Control Surveillance (APS) Rating should contain the following topics, subtopics and training objectives that are associated with the subjects contained in point ATCO.D.010(a)(2)(iv) Approach Control Surveillance (APS) Rating.

(c) Subjects from point ATCO.D.010(a)(2)(iv) are repeated in this AMC for the convenience of the reader and do not form part of it.

INTRODUCTION TO THE COURSE

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 how the course is administered.	1		ALL
Subtopic INTR 1.3 — Study material and training documentation				
APS INTR 1.3.1	Use appropriate documents 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 used during the course.	1	Theoretical training, practical training, self-study, types of training events	ALL
APS INTR 2.1.2	State the subjects covered by 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 1: AVIATION LAW

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[1] *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 the suspension/ revocation of an ATCO licence.	2	Regulation (EU) 2015/340	ALL

TOPIC LAW 2 — RULES AND REGULATIONS				
Subtopic LAW 2.1 — Reports				
APS LAW 2.1.1	Describe the functions of, and processes for, reporting.	2	Reporting culture, forms for mandatory and voluntary occurrence reporting,	ALL

[1] 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).

TOPIC LAW 2 — RULES AND REGULATIONS				
			Regulation (EU) No 376/2014[1], Regulation (EU) 2015/1018[2] *Optional content: breach of regulations, watchbook/logbook, records, voluntary reporting*	
APS LAW 2.1.2	Use forms for reporting.	3	Regulation (EU) No 376/2014, forms for mandatory and voluntary occurrence reporting *Optional content: routine air-reports, breach of regulations, watchbook/logbook, records*	ALL
Subtopic LAW 2.2 — Airspace				
APS LAW 2.2.1	Appreciate airspace classes and structure and their relevance to operations using the Approach Control Surveillance rating.	3		APS
APS LAW 2.2.2	Provide planning, coordination and control actions appropriate to the classification and structure of given airspace.	4	*Optional content: Regulation (EU) No 923/2012[3], international requirements, civil requirements, military requirements, areas of responsibility, sectorisation, national requirements*	ALL
APS LAW 2.2.3	Appreciate responsibility for terrain clearance.	3		ALL

TOPIC LAW 3 — ATS 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: Regulation (EU) No 376/2014, 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:* Skybrary	ALL
Subtopic LAW 3.2 — Safety Investigation				

[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).

[2] Commission Implementing Regulation (EU) 2015/1018 of 29 June 2015 laying down a list classifying occurrences in civil aviation to be mandatorily reported according to Regulation (EU) No 376/2014 of the European Parliament and of the Council (OJ L 163, 30.6.2015, p. 1).

[3] 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).

TOPIC LAW 3 — ATS SAFETY MANAGEMENT				
APS LAW 3.2.1	Describe the role and objectives of safety investigation in the improvement of safety.	2		ALL

SUBJECT 2: AIR TRAFFIC MANAGEMENT

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, Regulation (EU) 2017/373, operating procedures for the simulated/training environment	APP APS
Subtopic ATM 1.2 — Flight information service (FIS)				
APS ATM 1.2.1	Provide FIS.	4	Regulation (EU) No 923/2012, Regulation (EU) 2017/373 *Optional content: national documents*	*ALL*
APS ATM 1.2.2	Use an ATS surveillance system in the provision of FIS.	3	Regulation (EU) No 923/2012, Regulation (EU) 2017/373, information to identified aircraft concerning: traffic, navigation *Optional content: weather*	APS ACS
APS ATM 1.2.3	Issue appropriate information concerning the position of conflicting traffic.	3	Regulation (EU) No 923/2012, Regulation (EU) 2017/373, traffic information, essential traffic information	APS ACS *APP ACP*
APS ATM 1.2.4	Appreciate the use of ATIS in the provision of FIS.	3	Regulation (EU) No 923/2012	*ALL*
Subtopic ATM 1.3 — Alerting service (ALRS)				
APS ATM 1.3.1	Provide ALRS.	4	Regulation (EU) 2017/373, Regulation (EU) No 923/2012 *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, *Optional content: EUROCONTROL Guidelines for Controller Training in the Handling of Unusual/Emergency Situations, ICAO Doc 4444, national documents*	ALL
APS ATM 1.3.3	Use an ATS surveillance system in the provision of ALRS.	3		APS ACS

TOPIC ATM 1 — PROVISION OF SERVICES				
Subtopic ATM 1.4 — ATS system capacity and air traffic flow management (ATFM)				
APS ATM 1.4.1	Appreciate the impact of the ATS system capacity and air traffic flow management on the controller.	3	*Optional content: EUROCONTROL ATFCM Users Manual, FABs, FUA, free route airspace, local implementation of ATFCM principles, etc.*	APP ACP APS ACS
APS ATM 1.4.2	Take account of flow management procedures in the provision of ATC.	2	*Optional content: EUROCONTROL ATFCM Users Manual*	APP APS
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 the supervisor of local factors affecting the ATS system capacity and air traffic flow management.	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 the ATS surveillance system capability.	4		APS ACS
Subtopic ATM 1.5 — Airspace management (ASM)				
APS ATM 1.5.1	Appreciate the impact of ASM on the controller.	3	*Optional content: FABs, EUROCONTROL Specification for the application of FUA, TSAs, CDRs, CBAs, free route airspace*	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	List the means of communication between controllers.	1	*Optional content: electronic, written, verbal and non-verbal communication*	ALL
APS ATM 2.1.2	Select the most suitable means of communication given the situation.	5		ALL
APS ATM 2.1.3	Use approved phraseology.	3	Regulation (EU) No 923/2012 *Optional content: published national/local language phraseology*	ALL

TOPIC ATM 2 — COMMUNICATION				
APS ATM 2.1.4	Ensure effective communication.	4	Use of plain language when required, communication within the sector/working position, between the sectors/WPs/ATC units, readback/verification of readback	ALL
APS ATM 2.1.5	Analyse examples of pilot–controller communication for effectiveness.	4	*Optional content: real-life recordings, situation in the simulator*	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	Regulation (EU) No 923/2012, Regulation (EU) 2017/373 *Optional content: ICAO Doc 4444, national documents*	ALL
APS ATM 3.1.2	Integrate appropriate ATC clearances into the control service.	4		ALL
APS ATM 3.1.3	Ensure that the agreed course of action is carried out.	4		ALL
Subtopic ATM 3.2 — ATC instructions				
APS ATM 3.2.1	Issue appropriate ATC instructions.	3	Regulation (EU) No 923/2012, Regulation (EU) 2017/373 *Optional content: ICAO Doc 4444 national documents*	ALL
APS ATM 3.2.2	Integrate appropriate ATC instructions into the control service.	4		ALL
APS ATM 3.2.3	Ensure that 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., Regulation (EU) 2017/373 *Optional content: release point*	ALL

TOPIC ATM 4 — COORDINATION				
APS ATM 4.3.2	Analyse the 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 when providing FIS.	4	Regulation (EU) 2017/373 *Optional content: ICAO Doc 4444*	ALL
APS ATM 4.3.6	Coordinate when providing ALRS.	4	Regulation (EU) 2017/373 *Optional content: 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	Regulation (EU) No 923/2012	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 usable 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 — SEPARATION				
Subtopic ATM 6.1 — Vertical separation				
APS ATM 6.1.1	Provide standard vertical separation.	4	ICAO Doc 4444, Regulation (EU) No 923/2012, level allocation, during climb/descent, rate of climb/descent, holding pattern	APP APS
APS ATM 6.1.2	Provide increased vertical separation.	4	Regulation (EU) No 923/2012, ICAO Doc 4444 *Optional content: level allocation, during climb/descent, rate of climb/descent, degraded aircraft performance, non-RVSM aircraft, reported severe turbulence*	APP ACP APS ACS
APS ATM 6.1.3	Appreciate the application of emergency vertical separation.	3	Regulation (EU) No 923/2012, ICAO Doc 4444, ICAO Doc 7030	APP ACP APS ACS

TOPIC ATM 6 — SEPARATION				
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 surveillance system coverage*	APS ACS
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	Regulation (EU) 2017/373	APP APS
Subtopic ATM 6.4 — Wake turbulence distance-based separation				
APS ATM 6.4.1	Provide distance-based wake turbulence separation.	4	Regulation (EU) 2017/373 Regulation (EU) No 923/2012 *Optional content: EASA SIB 2017-10 'En-route Wake Turbulence Encounters', 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	Regulation (EU) 2017/373	APS *ACS*
APS ATM 6.5.2	Provide horizontal separation.	4	Regulation (EU) 2017/373 *Optional content: local/simulator 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 versus transit versus arrival*	APS *ACS*
APS ATM 6.5.4	Ensure horizontal or vertical separation from airspace boundaries.	4	Adjacent sectors, restricted, prohibited and danger areas, TSAs	APS *ACS*

TOPIC ATM 7 — AIRBORNE AND GROUND-BASED SAFETY NETS				
Subtopic ATM 7.1 — Airborne safety nets				
APS ATM 7.1.1	Recognise the independence of ACAS thresholds from ATC separation standards.	1	ICAO Doc 9863 *Optional content: Skybrary Safety Nets*	ALL
APS ATM 7.1.2	Describe the controller responsibility during and following an ACAS RA reported by a pilot.	2	Regulation (EU) No 923/2012 *Optional content: ICAO Doc 4444, ICAO Doc 9863, Skybrary Safety Nets*	ALL
APS ATM 7.1.3	Respond to pilot notification of actions based on airborne systems warnings.	3	ACAS *Optional content: TAWS, Skybrary Safety Nets*	APP APS ACP ACS
Subtopic ATM 7.2 — Ground-based safety nets				

TOPIC ATM 7 — AIRBORNE AND GROUND-BASED SAFETY NETS				
APS ATM 7.2.1	Describe the controller responsibility during and following safety net warnings.	2	Regulation (EU) 2017/373 *Optional content: ACAO Doc 4444, 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, supplementary information *Optional content: FPL, 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: local/simulator operation manuals, briefing, notices, current flight plan data/information displays, pilot reports, coordination, 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 by displays, etc.*	APP ACP APS ACS
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, letters of agreement (LoAs), NOTAMs, AICs*	ALL
APS ATM 9.2.2	Manage traffic in accordance with a change to operational procedures.	4		APP ACP APS ACS
Subtopic ATM 9.3 — Handover–takeover				

TOPIC ATM 9 — OPERATIONAL ENVIRONMENT (SIMULATED)				
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
APS ATM 9.3.3	List possible actions to provide a safe position handover–takeover.	1	*Optional content: rigour, preparation, overlap time*	ALL
APS ATM 9.3.4	Explain the consequences of a missed position handover–takeover process.	2		ALL

TOPIC ATM 10 — PROVISION OF CONTROL SERVICE				
Subtopic ATM 10.1 — Responsibility for the provision of control service and the processing of information				
APS ATM 10.1.1	Describe the division of responsibility among air traffic control units.	2	Regulation (EU) 2017/373 *Optional content: 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	Regulation (EU) No 923/2012	*ALL*
APS ATM 10.1.4	Interpret operational information.	5		APP ACP APS ACS
APS ATM 10.1.5	Organise forwarding of operational information.	4	*Optional content: including the use of backup procedures*	APP ACP APS ACS
APS ATM 10.1.6	Integrate operational information into control decisions.	4		APP ACP APS ACS
APS ATM 10.1.7	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 ATS surveillance service appropriate to APS rating.	2	Regulation (EU) No 923/2012, Regulation (EU) 2017/373 *Optional content: local/simulator operation manuals*	APS
APS ATM 10.2.2	Explain the functions that may be performed with the use of ATS surveillance system derived information presented on a situation display.	2	Regulation (EU) 2017/373	APS ACS

TOPIC ATM 10 — PROVISION OF CONTROL SERVICE				
APS ATM 10.2.3	Provide planning, coordination and control actions appropriate to VFR, SVFR and IFR traffic in VMC and IMC.	4	Regulation (EU) No 923/2012, Regulation (EU) 2017/373, ICAO Doc 4444	APS *APP*
APS ATM 10.2.4	Apply the procedures for termination of ATS surveillance service.	3	Regulation (EU) 2017/373 *Optional content: ICAO Doc 4444, 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		*ALL*
APS ATM 10.3.5	Select an appropriate plan in time to achieve safe and effective traffic flow.	5		APP ACP APS ACS
APS ATM 10.3.6	Ensure the adequate prioritisation of actions.	4		*ALL*
APS ATM 10.3.7	Execute the selected plan in a timely manner.	3		*ALL*
APS ATM 10.3.8	Ensure that 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	*Optional content: simulator operation procedures*	APP ACP APS ACS
APS ATM 10.4.2	Balance the workload against personal capacity.	5	*Optional content: rerouting, replanning, prioritising solutions, denying requests, delegating responsibility for separation*	APP ACP APS ACS
APS ATM 10.4.3	Define flight path monitoring and vectoring.	1	Regulation (EU) 2017/373	APS ACS
APS ATM 10.4.4	Explain the requirements for vectoring and termination of vectoring.	2	ICAO Doc 4444, Regulation (EU) 2017/373	APS ACS

TOPIC ATM 10 — PROVISION OF CONTROL SERVICE				
APS ATM 10.4.5	Provide vectoring.	4	Regulation (EU) No 923/2012, Regulation (EU) 2017/373 *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	Regulation (EU) No 923/2012, Regulation (EU) 2017/373	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	Regulation (EU) No 923/2012, Regulation (EU) 2017/373 *Optional content: Skybrary*	*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 — Holding procedures				
APS ATM 11.1.1	Apply holding procedures.	3	ICAO Doc 4444, Regulation (EU) No 923/2012, Regulation (EU) 2017/373, 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	Issue Expected Approach Times (EATs).	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

TOPIC ATM 11 — HOLDING				
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 the procedures for misidentification.	3	ICAO Doc 4444, Regulation (EU) 2017/373 *Optional content: local/simulator operation manuals*	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 on to aircraft.	3		APS ACS
APS ATM 12.4.2	State the format in which position information can be passed on to aircraft.	1	Regulation (EU) 2017/373	APS ACS
Subtopic ATM 12.5 — Transfer of identity				
APS ATM 12.5.1	Apply methods of transfer of identification.	3		APS ACS
APS ATM 12.5.2	Appreciate the precautions when transferring identification.	3		APS ACS

SUBJECT 3: METEOROLOGY

TOPIC MET 1 — METEOROLOGICAL PHENOMENA				
Subtopic MET 1.1 — Meteorological phenomena				
APS MET 1.1.1	Appreciate the impact of adverse weather on aircraft.	3	Thunderstorms, icing, clear-air turbulence (CAT), turbulence, microburst, wind shear, severe mountain waves, squall lines, volcanic ash	APP APS
APS MET 1.1.2	Integrate data about meteorological phenomena into the 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	Rerouting, 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/special AIREP*	APP ACP APS ACS
APS MET 2.1.2	Decode information from meteorological data displays.	3		*ALL*
APS MET 2.1.2	Relay meteorological information.	3	ICAO Doc 4444, Regulation (EU) No 923/2012 *Optional content: flight information centre, adjacent ATS unit*	*ALL*

SUBJECT 4: NAVIGATION

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 & STAR charts, aerodrome charts *Optional content: visual approach charts, military maps and charts*	ADC APP APS
APS NAV 1.1.2	Use relevant maps and charts.	3		*ALL*

TOPIC NAV 2 — INSTRUMENT NAVIGATION
Subtopic NAV 2.1 — Navigational systems

TOPIC NAV 2 — INSTRUMENT NAVIGATION				
APS NAV 2.1.1	Manage traffic in case of change in the operational status of navigational systems.	4	*Optional content: limitations, availability and status of ground-based and satellite-based systems*	APP ACP APS ACS
APS NAV 2.1.2	Appreciate the effect of a change in the operational status of navigational systems.	3	*Optional content: precision, limitations, status, degraded procedures*	*ALL*
Subtopic NAV 2.2 — Stabilised approach				
APS NAV 2.2.1	Describe the concept of stabilised approach.	2	*Optional content: Skybrary*	ADC 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	Cockpit workload *Optional content: impact on vertical profile (CDO), FMS management, crew procedure briefing, missed approach, loss of situational awareness, etc.*	APP APS
APS NAV 2.2.3	Appreciate controller actions that may contribute to an unstabilised approach.	3	Inappropriate speed control, vectoring for short final, vectoring for approach with significant tailwind, glide path interception from above, lack of or incorrect distance to touchdown information, delayed descent, incorrect use of 'DIRECT TO'	APS
Subtopic NAV 2.3 — Instrument departures and arrivals				
APS NAV 2.3.1	Describe relevant SIDs and STARs.	2		APP APS
APS NAV 2.3.2	Describe the types and phases of instrument approach procedures.	2	Regulation (EU) 2017/373, ICAO Annex 6	ADC APP APS
APS NAV 2.3.3	Describe the relevant minima applicable for a precision/non-precision and visual approach.	2	*Optional content: Type A/B operations, CAT I/II/III criteria, LNAV, LNAV/VNAV, LPV, RNP AR APCH minima*	ADC 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 pilots with navigation when required.	3	Aircraft observed to be deviating from their known intended route, on pilots' 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	RNP APCH, RNP AR APCH, SBAS, GBAS *Optional content: LNAV, LNAV/VNAV LPV, RNP minima, precision approach*	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 RNP 1 with RF, rotorcraft option RNP 0.3	APP APS

TOPIC NAV 2 — INSTRUMENT NAVIGATION				
			Optional content: ICAO Doc 9613, Regulation (EU) No 716/2014[1], Regulation (EU) 2018/1048[2]	
APS NAV 2.6.2	Explain the principles and designation of navigation specifications in use.	2	Performance, functionalities, sensors *Optional content: aircrew and controller requirements, accuracy requirements, integrity and continuity*	APP *ACP* APS *ACS*
APS NAV 2.6.3	Describe the differences in turn performance.	2	*Optional content: fly-by, fly-over, RF, ICAO Doc 4444*	APP APS
APS NAV 2.6.4	State future PBN developments.	1	A-RNP, RNP (AR) DEP *Optional content: RNP 3D, VNAV, RNP 4D, TBO*	*ALL*

SUBJECT 5: AIRCRAFT

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 into 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	ADC 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 succeeding aircraft.	2		ALL
APS ACFT 2.1.2	Appreciate the techniques used to prevent hazards associated with wake turbulence to succeeding aircraft.	3		ALL
Subtopic ACFT 2.2 — Application of the ICAO approach categories				
APS ACFT 2.2.1	Describe the use of the ICAO approach categories.	2	ICAO Doc 8168	ADC APP APS

[1] Commission Implementing Regulation (EU) No 716/2014 of 27 June 2014 on the establishment of the Pilot Common Project supporting the implementation of the European Air Traffic Management Master Plan (OJ L 190, 28.6.2014, p. 19).

[2] Commission Implementing Regulation (EU) 2018/1048 of 18 July 2018 laying down airspace usage requirements and operating procedures concerning performance-based navigation (OJ L 189, 26.7.2018, p. 3).

TOPIC ACFT 2 — AIRCRAFT CATEGORIES				
APS ACFT 2.2.2	Appreciate the effect of the ICAO approach categories on the traffic organisation.	3		ADC 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	Describe the influence of factors affecting departing aircraft.	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	*Optional content: level, cruising speed, wind, mass, cabin pressurisation*	APP APS
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	Provide continuous climb/descent whenever possible.	4		APS *ACS*
APS ACFT 3.5.3	Use direct routing where applicable.	3		APP *ACP* APS *ACS*
APS ACFT 3.5.4	Appreciate controller's actions that may contribute to pilot's ability to fly an optimum continuous descent.	3	*Optional content: level instructions, speed control, vertical speed control, vectoring, distance-to-touchdown information*	APS *ACS*
Subtopic ACFT 3.6 — Environmental factors				
APS ACFT 3.6.1	Appreciate the performance restrictions due to environmental considerations.	3	*Optional content: fuel-dumping, noise-abatement procedures, minimum flight levels, bird strike 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 control service.	4	Performance data under a representative variety of circumstances	*ALL*

SUBJECT 6: HUMAN FACTORS

TOPIC HUM 1 — INFORMATION PROCESSING				
Subtopic HUM 1.1 — Cognition and factors influencing it				
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
Subtopic HUM 1.2 — Situational awareness				
APS HUM 1.2.1	Appreciate the effect of human information-processing factors on situational awareness.	3	*Optional content: workload, knowledge, interpersonal relations, distraction, confidence, experience, fatigue, stress*	ALL
Subtopic HUM 1.3 — Decision-making				
APS HUM 1.3.1	Appreciate the effect of human information-processing factors on decision-making.	3	*Optional content: workload, stress, interpersonal relations, distraction, confidence*	ALL

TOPIC HUM 2 — FACTORS AFFECTING HEALTH AND WELL-BEING				
Subtopic HUM 2.1 — Fatigue				
APS HUM 2.1.1	Describe the onset of fatigue.	2	Regulation (EU) 2017/373 *Optional content: lack of concentration, listlessness, irritability, frustration, Skybrary Human Behaviour: EUROCONTROL Fatigue and sleep management*	ALL
APS HUM 2.1.2	Recognise the onset of fatigue in self and in others.	1	*Optional content: Skybrary Human Behaviour: EUROCONTROL Fatigue and sleep management*	ALL
APS HUM 2.1.3	Describe the appropriate action when recognising fatigue.	2	*Optional content: Skybrary Human Behaviour: EUROCONTROL Fatigue and sleep management*	ALL
Subtopic HUM 2.2 — Stress				
APS HUM 2.2.1	Recognise the effects of stress on human performance.	1	Stress and its symptoms in self and in others *Optional content: Regulation (EU) 2017/373*	ALL

TOPIC HUM 2 — FACTORS AFFECTING HEALTH AND WELL-BEING				
APS HUM 2.2.2	Describe the appropriate action when recognising stress.	2		ALL
APS HUM 2.2.3	Act to reduce stress.	3		ALL
APS HUM 2.2.4	Respond to a stressful situation by offering, asking for or accepting assistance.	3		ALL
APS HUM 2.2.5	Recognise the effect of stressful events.	1	Self and others, abnormal situations	ALL

TOPIC HUM 3 — THREAT AND ERROR MANAGEMENT				
Subtopic HUM 3.1 — Threat and error management framework				
APS HUM 3.1.1	Explain the importance of threat and error management.	2	*Optional content: prevention of incidents, safety improvement, revision of procedures and/or working practices*	ALL
APS HUM 3.1.2	Explain the threat and error management framework.	2	Threats, errors, undesired states, countermeasures *Optional content: ICAO Circular 314 — AN/178 Threat and Error Management (TEM) in Air Traffic Control*	ALL
APS HUM 3.1.3	Differentiate between the different types of threats in ATC.	2	Internal, external, airborne, environmental *Optional content: ICAO Circular 314 — AN/178 Threat and Error Management (TEM) in Air Traffic Control*	ALL
APS HUM 3.1.4	Differentiate between the different types of errors in ATC.	2	Equipment, procedural, communication *Optional content: increase in traffic, changes in procedures, complexities of systems or traffic, weather, unusual occurrences*	ALL
APS HUM 3.1.5	Differentiate between the different types of undesired states.	2	On the ground, airborne *Optional content: ICAO Circular 314 — AN/178 Threat and Error Management (TEM) in Air Traffic Control*	ALL
APS HUM 3.1.6	Analyse examples of threat and error management in ATC.	4	Case studies *Optional content: ICAO Circular 314 — AN/178 Threat and Error Management (TEM) in Air Traffic Control*	ALL
Subtopic HUM 3.2 — Application of threat and error management				
APS HUM 3.2.1	Manage threats.	4	Detect and respond *Optional content: ICAO Circular 314 — AN/178 Threat and Error Management (TEM) in Air Traffic Control*	ALL
APS HUM 3.2.2	Manage errors.	4	Detect and respond *Optional content: ICAO Circular 314 — AN/178 Threat and Error Management (TEM) in Air Traffic Control*	ALL

TOPIC HUM 3 — THREAT AND ERROR MANAGEMENT				
APS HUM 3.2.3	Manage undesired states.	4	Detect and respond *Optional content: ICAO Circular 314 — AN/178 Threat and Error Management (TEM) in Air Traffic Control*	ALL

TOPIC HUM 4 — TEAMWORK				
Subtopic HUM 4.1 — Benefits of teamwork				
APS HUM 4.1.1	State the benefits of teamwork.	1	Increased safety, efficiency and capacity	ALL
APS HUM 4.1.2	List the controller's human performance elements affected by teamwork.	1	Situational awareness, communication, decision-making, threat and error management, workload management	ALL
Subtopic HUM 4.2 — Conflict management				
APS HUM 4.2.1	Identify the reasons for conflict.	3		ALL
APS HUM 4.2.2	Describe strategies to cope with human conflicts.	2	*Optional content: in your team, in the simulator*	ALL
APS HUM 4.2.3	Describe actions to prevent human conflicts.	2		ALL

TOPIC HUM 5 — HUMAN ERROR				
Subtopic HUM 5.1 — Concept of systems in ATM/ANS				
APS HUM 5.1.1	Explain the concept of systems.	2	People; procedures; equipment; ATM in systems terms: simple, complicated, and complex systems; system thinking	ALL
APS HUM 5.1.2	Describe how changes in one part of a system may impact the other parts.	2		ALL
APS HUM 5.1.3	Describe the role of the human in the system.	2		ALL

TOPIC HUM 6 — COMMUNICATION				
Subtopic HUM 6.1 — Effective communication				
APS HUM 6.1.1	Explain effective communication in ATC operations.	2	ICAO Doc 9868	ALL
APS HUM 6.1.2	Explain key strategies used to enable open communication.	2	*Optional content: active listening, active speaking, assertiveness, honesty, relevance, facts, neutrality*	ALL
APS HUM 6.1.3	Describe the parameters affecting the controller's competence to communicate effectively.	2	Workload, mutual knowledge, controller versus pilot mental picture, distractions, sound, human conflicts	ALL

TOPIC HUM 6 — COMMUNICATION				
			Optional content: communication between and within the team(s), in the simulator, with the pilots, instructors, coordination partners workload	
Subtopic HUM 6.2 — Effective feedback				
APS HUM 6.2.1	Define feedback.	1		ALL
APS HUM 6.2.2	Explain the purpose of receiving and giving feedback, and its effect on performance.	2		ALL
APS HUM 6.2.3	Consider the impact of communication styles on feedback and on conflict resolution.	2		ALL
APS HUM 6.2.4	Integrate feedback into performance.	4		ALL

SUBJECT 7: EQUIPMENT AND SYSTEMS

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, NOTAMs, SNOWTAMs, BIRDTAMs, 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*	ADC 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 the 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 the availability of information.	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 the controller working position.	3		ALL
Subtopic EQPS 3.4 — Use of the 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 data link communications when available.	3		APS ACS
APS EQPS 3.5.2	Characterise the use of information provided by advanced systems.	2	MTCD, AMAN, DMAN *Optional content: trajectory-based information, 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 *Optional content: European ATM Master Plan, European Plan for Aviation Safety*	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	*Optional content: procedures for total or partial degradation of ground–air and landline communications, alternative methods of transferring data*	ALL
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: navigational aids, 'European GNSS Contingency/Reversion Handbook for PBN Operations'*	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*	ALL
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 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 processing system degradation.	3		APS ACS

SUBJECT 8: PROFESSIONAL ENVIRONMENT

TOPIC PEN 1 — FAMILIARISATION				
Subtopic PEN 1.1 — Study visit to an approach control unit				
APS PEN 1.1.1	Appreciate the functions and provision of 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 an 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, firefighting 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	Appreciate the role of an air navigation service provider.	3	Regulation (EU) 2018/1139[1]	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 Doc 10013 — Operational Opportunities to reduce fuel burn and emissions*	ADC APP APS
APS PEN 4.1.2	Explain the use of the Collaborative Environmental Management (CEM) process at aerodromes.	2	*Optional content: European ATM Master Plan, EUROCONTROL CEM Specification*	ADC APP APS

[1] Regulation (EU) 2018/1139 of the European Parliament and of the Council of 4 July 2018 on common rules in the field of civil aviation and establishing a European Union Aviation Safety Agency, and amending Regulations (EC) No 2111/2005, (EC) No 1008/2008, (EU) No 996/2010, (EU) No 376/2014 and Directives 2014/30/EU and 2014/53/EU of the European Parliament and of the Council, and repealing Regulations (EC) No 552/2004 and (EC) No 216/2008 of the European Parliament and of the Council and Council Regulation (EEC) No 3922/91.

TOPIC PEN 4 — ENVIRONMENTAL PROTECTION				
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), continuous climb operations (CCO), noise-abatement procedures, noise preferential routes, flight efficiency*	APS

SUBJECT 9: 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, GNSS failure*	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, radio silence instruction	ALL
APS ABES 2.1.2	Apply change of radiotelephony call sign.	3	Regulation (EU) No 923/2012 *Optional content: ICAO Doc 4444*	ALL
Subtopic ABES 2.2 — Avoidance of mental overload				
APS ABES 2.2.1	Describe actions to keep the situation under control.	2	*Optional content: sector-splitting, holding, flow management, task delegation*	ALL
APS ABES 2.2.2	Organise priority of actions.	4		ALL

TOPIC ABES 2 — SKILLS IMPROVEMENT				
APS ABES 2.2.3	Ensure the effective dissemination 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 (ABES)				
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 to be followed by a pilot when experiencing complete or partial radio failure.	2	Regulation (EU) No 923/2012 *Optional content: ICAO Doc 4444, military procedures, simulator operation procedures*	ALL
APS ABES 3.2.2	Apply the procedures to be followed when a pilot experiences complete or partial radio failure.	3	Regulation (EU) No 923/2012 *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	Regulation (EU) No 923/2012 *Optional content: simulator operation procedures*	ALL
Subtopic ABES 3.4 — Strayed or unidentified aircraft				
APS ABES 3.4.1	Apply the procedures for strayed aircraft.	3	Regulation (EU) No 923/2012 *Optional content: inside controlled airspace, outside controlled airspace*	ALL
APS ABES 3.4.2	Apply the procedures for unidentified aircraft.	3	Regulation (EU) No 923/2012	ALL
Subtopic ABES 3.5 — Diversion				
APS ABES 3.5.1	Provide navigational assistance to aircraft diverting in emergency.	4	Track/heading, distance, other navigational assistance *Optional content: nearest most suitable aerodrome*	APP ACP APS ACS
Subtopic ABES 3.6 — Transponder failure				

TOPIC ABES 3 — PROCEDURES FOR ABNORMAL AND EMERGENCY SITUATIONS (ABES)				
APS ABES 3.6.1	Apply procedures in the event of an SSR transponder failure.	3	Regulation (EU) No 923/2012 *Optional content: total/partial failure, impact on ADS-B/Mode S capability*	APS ACS
Subtopic ABES 3.7 — Interception of civil aircraft				
APS ABES 3.7.1	Explain the procedures in the event of interception of civil aircraft.	2	Regulation (EU) No 923/2012	*ALL*

SUBJECT 10: 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 139/20141 *Optional content: aerodrome elevation, reference point, apron, movement area, manoeuvring area, hotspot*	ADC APP APS
Subtopic AGA 1.2 — Coordination				
APS AGA 1.2.1	Identify the information that has to be exchanged between Air Traffic Services (ATS) and the aerodrome authority.	3	Aerodrome conditions, fire/rescue category, condition of ground equipment and NAVAIDs, AIRAC, Regulation (EU) No 139/2014	ADC APP APS

TOPIC AGA 2 — MOVEMENT AREA				
Subtopic AGA 2.1 — Movement area				
APS AGA 2.1.1	Describe the movement area.	2	Regulation (EU) No 139/2014	ADC APP APS
APS AGA 2.1.2	Describe the marking of obstacles and unusable or unserviceable areas.	2	Flags, signs on pavement, lights	ADC APP APS
APS AGA 2.1.3	Identify the information on conditions of the movement area that has to be passed on to aircraft.	3	Essential information on aerodrome conditions	ADC APP APS
Subtopic AGA 2.2 — Manoeuvring area				
APS AGA 2.2.1	Describe the manoeuvring area.	2	Regulation (EU) No 139/2014	ADC APP APS
APS AGA 2.2.2	Describe the taxiway.	2		ADC APP APS
APS AGA 2.2.3	Describe the daylight marking on taxiways.	2		ADC APP APS

[1] 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).

TOPIC AGA 2 — MOVEMENT AREA				
APS AGA 2.2.4	Describe taxiway lighting.	2		ADC APP APS
Subtopic AGA 2.3 — Runways				
APS AGA 2.3.1	Describe the runway.	2	Runway, runway surface, runway strip, runway shoulder, runway-end safety areas, clearways, stopways	ADC APP APS
APS AGA 2.3.2	Describe the instrument runway.	2	Regulation (EU) No 139/2014	ADC APP APS
APS AGA 2.3.3	Describe the non-instrument runway.	2	Regulation (EU) No 139/2014	ADC APP APS
APS AGA 2.3.4	Explain declared distances.	2	TORA, TODA, ASDA, LDA	ADC APP APS
APS AGA 2.3.5	Explain the differences between ACN and PCN.	2	Strength of pavements	ADC 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*	ADC APP APS
APS AGA 2.3.7	Describe runway lights.	2	*Optional content: colour, centre line, intensity, edge, touchdown zone, threshold, barettes*	ADC APP APS
APS AGA 2.3.8	Explain the functions of visual landing aids.	2	*Optional content: AVASI, VASI, PAPI*	ADC APP APS
APS AGA 2.3.9	Describe the approach lighting systems.	2	Centre line, cross bars, stroboscopic lights, colours, intensity and brightness	ADC APP APS
APS AGA 2.3.10	Characterise the effect of water/ice on runways.	2		ADC APP APS
APS AGA 2.3.11	Explain braking performance and methods of reporting it.	2		ADC APP APS
APS AGA 2.3.12	Explain the effect of runway visual range on aerodrome operations.	2		ADC 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 airspace around aerodromes obstacle free.	2		ADC 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: LOC, GP, VDF, radio communication or ATS surveillance systems sensors, stopbars, AVASI, VASI, PAPI*	ADC APP APS

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

AREA CONTROL SURVEILLANCE (ACS) RATING TRAINING — TOPICS, SUBTOPICS AND TRAINING OBJECTIVES

(a) The general principles that apply to this AMC are contained in AMC1 ATCO.D.010(a).

(b) The ATCO rating training Area Control Surveillance (ACS) Rating should contain the following topics, subtopics and training objectives that are associated with the subjects contained in point ATCO.D.010(a)(2)(v) Area Control Surveillance (ACS) Rating.

(c) Subjects from point ATCO.D.010(a)(2)(v) are repeated in this AMC for the convenience of the reader and do not form part of it.

INTRODUCTION TO THE COURSE

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 how the course is administered.	1		ALL
Subtopic INTR 1.3 — Study material and training documentation				
ACS INTR 1.3.1	Use appropriate documents 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 used during the course.	1	Theoretical training, practical training, self-study, types of training events	ALL
ACS INTR	State the subjects covered by the course and their purpose.	1		ALL

TOPIC INTR 2 — INTRODUCTION TO THE ATC TRAINING COURSE				
2.1.2				
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 1: AVIATION LAW

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[1]	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 the suspension/ revocation of an ATCO licence.	2	Regulation (EU) 2015/340	ALL

TOPIC LAW 2 — RULES AND REGULATIONS				
Subtopic LAW 2.1 — Reports				
ACS LAW 2.1.1	Describe the functions of, and processes for, reporting.	2	Reporting culture, forms for mandatory and voluntary occurrence reporting,	ALL

[1] 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).

TOPIC LAW 2 — RULES AND REGULATIONS				
			Regulation (EU) No 376/2014[1], Regulation (EU) 2015/1018[2] *Optional content: breach of regulations, watchbook/logbook, records, voluntary reporting*	
ACS LAW 2.1.2	Use forms for reporting.	3	Regulation (EU) No 376/2014, forms for mandatory and voluntary occurrence reporting *Optional content: routine air-reports, breach of regulations, watchbook/logbook, records*	ALL
Subtopic LAW 2.2 — Airspace				
ACS LAW 2.2.1	Appreciate airspace classes and structure and their relevance to operations using the Area Control Surveillance rating.	3		ACS
ACS LAW 2.2.2	Provide planning, coordination and control actions appropriate to the classification and structure of given airspace.	4	*Optional content: Regulation (EU) No 923/2012[3], international requirements, civil requirements, military requirements, areas of responsibility, sectorisation, national requirements*	ALL
ACS LAW 2.2.3	Appreciate responsibility for terrain clearance.	3		ALL

TOPIC LAW 3 — ATS 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: Regulation (EU) No 376/2014, 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
ACS LAW 3.1.4	Appreciate the just culture concept.	3	Benefits, prerequisites, constraints *Optional content: Skybrary*	ALL
Subtopic LAW 3.2 — Safety investigation				

[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).

[2] Commission Implementing Regulation (EU) 2015/1018 of 29 June 2015 laying down a list classifying occurrences in civil aviation to be mandatorily reported according to Regulation (EU) No 376/2014 of the European Parliament and of the Council (OJ L 163, 30.6.2015, p. 1).

[3] 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).

TOPIC LAW 3 — ATS SAFETY MANAGEMENT				
ACS LAW 3.2.1	Describe the role and objectives of safety investigation in the improvement of safety.	2		ALL

SUBJECT 2: AIR TRAFFIC MANAGEMENT

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, Regulation (EU) 2017/373, operating procedures for the simulated/training environment	ACP ACS
Subtopic ATM 1.2 — Flight information service (FIS)				
ACS ATM 1.2.1	Provide FIS.	4	Regulation (EU) No 923/2012, Regulation (EU) 2017/373 *Optional content: national documents*	*ALL*
ACS ATM 1.2.2	Use an ATS surveillance system in the provision of FIS.	3	Regulation (EU) No 923/2012, Regulation (EU) 2017/373, information to identified aircraft concerning: traffic, navigation *Optional content: weather*	APS ACS
ACS ATM 1.2.3	Issue appropriate information concerning the position of conflicting traffic.	3	Regulation (EU) No 923/2012, Regulation (EU) 2017/373, traffic information, essential traffic information	APS ACS *APP ACP*
ACS ATM 1.2.4	Appreciate the use of ATIS in the provision of FIS.	3	Regulation (EU) No 923/2012	*ALL*
Subtopic ATM 1.3 — Alerting service (ALRS)				
ACS ATM 1.3.1	Provide ALRS.	4	Regulation (EU) 2017/373, Regulation (EU) No 923/2012 *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 *Optional content: EUROCONTROL Guidelines for Controller Training in the Handling of Unusual/Emergency Situations, ICAO Doc 4444, national documents*	ALL
ACS ATM 1.3.3	Use an ATS surveillance system in the provision of ALRS.	3		APS ACS
Subtopic ATM 1.4 — ATS system capacity and air traffic flow management				

TOPIC ATM 1 — PROVISION OF SERVICES				
ACS ATM 1.4.1	Appreciate the impact of the ATS system capacity and air traffic flow management on the controller.	3	*Optional content: EUROCONTROL ATFCM Users Manual, FABs, FUA, free route airspace, local implementation of ATFCM principles, 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*	ACP 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 the supervisor of local factors affecting the ATS system capacity and air traffic flow management.	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 the ATS surveillance system capability.	4		APS ACS
Subtopic ATM 1.5 — Airspace management (ASM)				
ACS ATM 1.5.1	Appreciate the impact of ASM on the controller.	3	*Optional content: FABs, EUROCONTROL Specification for the application of FUA, TSAs, CDRs, CBAs, free route airspace*	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	List the means of communication between controllers.	1	*Optional content: electronic, written, verbal and non-verbal communication*	ALL
ACS ATM 2.1.2	Select the most suitable means of communication given the situation.	5		ALL
ACS ATM 2.1.3	Use approved phraseology.	3	Regulation (EU) No 923/2012 *Optional content: published national/local language phraseology*	ALL

TOPIC ATM 2 — COMMUNICATION				
ACS ATM 2.1.4	Ensure effective communication.	4	Use of plain language when required, communication within the sector/working position, between the sectors/WPs/ATC units, readback/verification of readback	ALL
ACS ATM 2.1.5	Analyse examples of pilot–controller communication for effectiveness.	4	*Optional content: real-life recordings, situation in the simulator*	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	Regulation (EU) No 923/2012, Regulation (EU) 2017/373 *Optional content: ICAO Doc 4444, national documents*	ALL
ACS ATM 3.1.2	Integrate appropriate ATC clearances into the control service.	4		ALL
ACS ATM 3.1.3	Ensure that the agreed course of action is carried out.	4		ALL
Subtopic ATM 3.2 — ATC instructions				
ACS ATM 3.2.1	Issue appropriate ATC instructions.	3	Regulation (EU) No 923/2012, Regulation (EU) 2017/373 *Optional content: ICAO Doc 4444, national documents*	ALL
ACS ATM 3.2.2	Integrate appropriate ATC instructions into the control service.	4		ALL
ACS ATM 3.2.3	Ensure that 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., Regulation (EU) 2017/373 *Optional content: release point*	ALL

TOPIC ATM 4 — COORDINATION				
ACS ATM 4.3.2	Analyse the 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 that the agreed course of action is carried out.	4		ALL
ACS ATM 4.3.5	Coordinate when providing FIS.	4	Regulation (EU) 2017/373 *Optional content: ICAO Doc 4444*	ALL
ACS ATM 4.3.6	Coordinate when providing ALRS.	4	Regulation (EU) 2017/373 *Optional content: 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	Regulation (EU) No 923/2012	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 usable 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 — SEPARATION				
Subtopic ATM 6.1 — Vertical separation				
ACS ATM 6.1.1	Provide standard vertical separation.	4	ICAO Doc 4444, Regulation (EU) No 923/2012, 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, Regulation (EU) No 923/2012 *Optional content: level allocation, during climb/descent, rate of climb/descent, degraded aircraft performance, non-RVSM aircraft, reported severe turbulence*	APP ACP APS ACS
ACS ATM 6.1.3	Appreciate the application of emergency vertical separation.	3	Regulation (EU) No 923/2012, ICAO Doc 4444, ICAO Doc 7030	APP ACP APS ACS

TOPIC ATM 6 — SEPARATION				
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	Regulation (EU) 2017/373, Regulation (EU) No 923/2012 *Optional content: EASA SIB 2017-10 'En-route Wake Turbulence Encounters', 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	Regulation (EU) 2017/373	*APS ACS*
ACS ATM 6.4.2	Provide horizontal separation.	4	Regulation (EU) 2017/373 *Optional content: local/simulator 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 versus transit versus arrival*	*APS ACS*
ACS ATM 6.4.4	Ensure horizontal or vertical separation from airspace boundaries.	4	Adjacent sectors, restricted, prohibited and danger areas, TSAs.	*APS ACS*

TOPIC ATM 7 — AIRBORNE AND GROUND-BASED SAFETY NETS				
Subtopic ATM 7.1 — Airborne safety nets				
ACS ATM 7.1.1	Recognise the independence of ACAS thresholds from ATC separation standards.	1	ICAO Doc 9863 *Optional content: Skybrary Safety Nets*	ALL
ACS ATM 7.1.2	Describe the controller responsibility during and following an ACAS RA reported by a pilot.	2	Regulation (EU) No 923/2012 *Optional content: ICAO Doc 4444, ICAO Doc 9863, Skybrary Safety Nets*	ALL
ACS ATM 7.1.3	Respond to pilot notification of actions based on airborne systems warnings.	3	ACAS *Optional content: TAWS, Skybrary Safety Nets*	APP APS ACP ACS
Subtopic ATM 7.2 — Ground-based safety nets				
ACS ATM 7.2.1	Describe the controller responsibility during and following safety net warnings.	2	Regulation (EU) 2017/373 *Optional content: ICAO Doc 4444, 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, supplementary information *Optional content: FPL, 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: local/simulator operation manuals, briefing, notices, current flight plan data/information displays, pilot reports, coordination, 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, letters of agreement (LoAs), NOTAMs, AICs*	ALL
ACS ATM 9.2.2	Manage traffic in accordance with a change to operational procedures.	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
ACS ATM 9.3.3	List possible actions to provide a safe position handover–takeover.	1	*Optional content: rigour, preparation, overlap time*	ALL

TOPIC ATM 9 — OPERATIONAL ENVIRONMENT (SIMULATED)				
ACS ATM 9.3.4	Explain the consequences of a missed position handover–takeover.	2		ALL

TOPIC ATM 10 — PROVISION OF CONTROL SERVICE				
Subtopic ATM 10.1 — Responsibility for the provision of control service and the processing of information				
ACS ATM 10.1.1	Describe the division of responsibility among air traffic control units.	2	Regulation (EU) 2017/373	*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	Regulation (EU) No 923/2012	*ALL*
ACS ATM 10.1.4	Interpret operational information.	5		APP ACP APS ACS
ACS ATM 10.1.5	Organise forwarding of operational information.	4	*Optional content: including the use of backup procedures*	APP ACP APS ACS
ACS ATM 10.1.6	Integrate operational information into control decisions.	4		APP ACP APS ACS
ACS ATM 10.1.7	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	Regulation (EU) 2017/373, Regulation (EU) No 923/2012 *Optional content: local/simulator operation manuals*	ACS
ACS ATM 10.2.2	Explain the functions that may be performed with the use of ATS surveillance system derived information presented on a situation display.	2	Regulation (EU) 2017/373	APS ACS
ACS ATM 10.2.3	Provide planning, coordination and control actions appropriate to VFR and IFR traffic 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 the termination of ATS surveillance service.	3	Regulation (EU) 2017/373 *Optional content: ICAO Doc 4444, 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

TOPIC ATM 10 — PROVISION OF CONTROL SERVICE				
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		ALL
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 the selected plan in a timely manner.	3		*ALL*
ACS ATM 10.3.8	Ensure that 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	*Optional content: simulator operation procedures*	APP ACP APS ACS
ACS ATM 10.4.2	Balance the workload against personal capacity.	5	*Optional content: rerouting, replanning, prioritising solutions, denying requests, delegating responsibility for separation*	APP ACP APS ACS
ACS ATM 10.4.3	Define flight path monitoring and vectoring.	1	Regulation (EU) 2017/373	APS ACS
ACS ATM 10.4.4	Explain the requirements for vectoring and termination of vectoring.	2	Regulation (EU) 2017/373	APS ACS
ACS ATM 10.4.5	Provide vectoring.	4	Regulation (EU) No 923/2012, Regulation (EU) 2017/373 *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 the termination of vectoring.	3	Regulation (EU) No 923/2012, Regulation (EU) 2017/373	APS ACS
Subtopic ATM 10.5 — Control service with advanced system support				

TOPIC ATM 10 — PROVISION OF CONTROL SERVICE				
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 — Holding procedures				
ACS ATM 11.1.1	Apply holding procedures.	3	ICAO Doc 4444, Regulation (EU) No 923/2012, Regulation (EU) 2017/373, 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	Issue 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 the procedures for misidentification.	3	ICAO Doc 4444, Regulation (EU) 2017/373 *Optional content: local/simulator operation manuals*	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

TOPIC ATM 12 — IDENTIFICATION				
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 on to aircraft.	3		APS ACS
ACS ATM 12.4.2	State the format in which position information can be passed on to aircraft.	1	Regulation (EU) 2017/373	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 3: METEOROLOGY

TOPIC MET 1 — METEOROLOGICAL PHENOMENA				
Subtopic MET 1.1 — Meteorological phenomena				
ACS MET 1.1.1	Appreciate the impact of adverse weather on aircraft.	3	Thunderstorms, icing, jet streams, clear-air turbulence (CAT), turbulence, microburst, severe mountain waves, squall lines, volcanic ash *Optional content: solar radiation*	ACP ACS
ACS MET 1.1.2	Integrate data about meteorological phenomena into the 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	Rerouting, 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/special AIREP*	APP ACP APS ACS
ACS MET	Decode information from meteorological data displays.	3		*ALL*

TOPIC MET 2 — SOURCES OF METEOROLOGICAL DATA				
2.1.2				
ACS MET 2.1.3	Relay meteorological information.	3	ICAO Doc 4444, Regulation (EU) No 923/2012 *Optional content: flight information centre, adjacent ATS unit*	*ALL*

SUBJECT 4: NAVIGATION

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		*ALL*
ACS NAV 1.1.2	Decode symbols and information displayed on aeronautical maps and charts.	3	En-route and area charts *Optional content: STAR charts*	ACP 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, availability and status of ground-based and satellite-based systems*	APP ACP APS ACS
ACS NAV 2.1.2	Appreciate the effect of a change in the operational status of navigational systems.	3	*Optional content: precision, 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 pilots with navigation when required.	3	Aircraft observed to be deviating from their known intended route, on pilots' 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, En-route-RNAV-5 *Optional content: A-RNP, Commission Implementing Regulation (EU) 2018/1048 (the PBN Regulation), ICAO Doc 9613*	ACP ACS
ACS NAV 2.3.2	Explain the principles and designation of navigation specifications in use.	2	Performance, functionalities, sensors *Optional content: aircrew and controller requirements, accuracy requirements, integrity and continuity*	*APP* ACP *APS* ACS

TOPIC NAV 2 — INSTRUMENT NAVIGATION				
ACS NAV 2.3.3	Describe the differences in turn performance.	2	*Optional content: fly-by, fly-over, FRT, ICAO Doc 4444*	ACP ACS
ACS NAV 2.3.4	State future PBN developments.	1	A-RNP, RNP (AR) DEP *Optional content: RNP 3D, VNAV, 4D, TBO*	*ALL*

SUBJECT 5: AIRCRAFT

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 into 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	ADC 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 succeeding aircraft.	2		ALL
ACS ACFT 2.1.2	Appreciate the techniques used to prevent hazards associated with wake turbulence to 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	ACP 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				

TOPIC ACFT 3 — FACTORS AFFECTING AIRCRAFT PERFORMANCE				
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	Provide continuous climb/descent whenever possible.	4		*APS* ACS
ACS ACFT 3.4.3	Use direct routing where applicable.	3		*APP* ACP *APS* ACS
ACS ACFT 3.4.4	Appreciate controller's actions that may contribute to pilot's ability to fly an optimum continuous descent.	3	*Optional content: level instructions, speed control, vertical speed control, vectoring, distance-to-touchdown information*	ACS APS
Subtopic ACFT 3.5 — Environmental factors				
ACS ACFT 3.5.1	Appreciate the performance restrictions due to environmental considerations.	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 control service.	4	Performance data under a representative variety of circumstances	APP ACP APS ACS

SUBJECT 6: HUMAN FACTORS

TOPIC HUM 1 — INFORMATION PROCESSING				
Subtopic HUM 1.1 — Cognition and factors influencing it				
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
Subtopic HUM 1.2 — Situational awareness				
ACS HUM 1.2.1	Appreciate the effect of human information-processing factors on situational awareness.	3	*Optional content: workload, knowledge, interpersonal relations, distraction, confidence, experience, fatigue, stress*	ALL
Subtopic HUM 1.3 — Decision-making				
ACS HUM 1.3.1	Appreciate the effect of human information-processing factors on decision-making.	3	*Optional content: workload, stress, interpersonal relations, distraction, confidence*	ALL

TOPIC HUM 2 — FACTORS AFFECTING HEALTH AND WELL-BEING				
Subtopic HUM 2.1 — Fatigue				
ACS HUM 2.1.1	Describe the onset of fatigue.	2	Regulation (EU) 2017/373 *Optional content: lack of concentration, listlessness, irritability, frustration, Skybrary Human Behaviour: EUROCONTROL Fatigue and sleep management*	ALL
ACS HUM 2.1.2	Recognise the onset of fatigue in self and in others.	1	*Optional content: Skybrary Human Behaviour: EUROCONTROL Fatigue and sleep management*	ALL
ACS HUM 2.1.3	Describe the appropriate action when recognising fatigue.	2	*Optional content: Skybrary Human Behaviour, EUROCONTROL Fatigue and sleep management*	ALL
Subtopic HUM 2.2 — Stress				
ACS HUM 2.2.1	Recognise the effects of stress on human performance.	1	Stress and its symptoms in self and in others *Optional content: Regulation (EU) 2017/373*	ALL
ACS HUM 2.2.2	Describe the appropriate action when recognising stress.	2		ALL
ACS HUM 2.2.3	Act to reduce stress.	3		ALL
ACS HUM 2.2.4	Respond to stressful situations by offering, asking for or accepting assistance.	3		ALL
ACS HUM 2.2.5	Recognise the effect of stressful events.	1	Self and others, abnormal situations	ALL

TOPIC HUM 3 — THREAT AND ERROR MANAGEMENT				
Subtopic HUM 3.1 — Threat and error management framework				
ACS HUM 3.1.1	Explain the importance of threat and error management.	2	*Optional content: prevention of incidents, safety improvement, revision of procedures and/or working practices*	ALL
ACS HUM 3.1.2	Explain the threat and error management framework.	2	Threats, errors, undesired states, countermeasures *Optional content: ICAO Circular 314 — AN/178 Threat and Error Management (TEM) in Air Traffic Control*	ALL
ACS HUM 3.1.3	Differentiate between the different types of threats in ATC.	2	Internal, external, airborne, environmental *Optional content: ICAO Circular 314 — AN/178 Threat and Error Management (TEM) in Air Traffic Control*	ALL
ACS HUM 3.1.4	Differentiate between the different types of errors in ATC.	2	Equipment, procedural, communication *Optional content: increase in traffic, changes in procedures, complexities of*	ALL

TOPIC HUM 3 — THREAT AND ERROR MANAGEMENT				
			systems or traffic, weather, unusual occurrences	
ACS HUM 3.1.5	Differentiate between the different types of undesired states.	2	On the ground, airborne *Optional content: ICAO Circular 314 — AN/178 Threat and Error Management (TEM) in Air Traffic Control*	ALL
ACS HUM 3.1.6	Analyse examples of threat and error management in ATC.	4	Case studies *Optional content: ICAO Circular 314 — AN/178 Threat and Error Management (TEM) in Air Traffic Control*	ALL
Subtopic HUM 3.2 — Application of threat and error management				
ACS HUM 3.2.1	Manage threats.	3	Detect and respond *Optional content: ICAO Circular 314 — AN/178 Threat and Error Management (TEM) in Air Traffic Control*	ALL
ACS HUM 3.2.2	Manage errors.	2	Detect and respond *Optional content: ICAO Circular 314 — AN/178 Threat and Error Management (TEM) in Air Traffic Control*	ALL
ACS HUM 3.2.3	Manage undesired states.	2	Detect and respond *Optional content: ICAO Circular 314 — AN/178 Threat and Error Management (TEM) in Air Traffic Control*	ALL

TOPIC HUM 4 — TEAMWORK				
Subtopic HUM 4.1 — Benefits of teamwork				
ACS HUM 4.1.1	State the benefits of teamwork.	1	Increased safety, efficiency and capacity	ALL
ACS HUM 4.1.2	List the controller's human performance elements affected by teamwork.	1	Situational awareness, communication, decision-making, threat and error management, workload management	ALL
Subtopic HUM 4.2 — Conflict management				
ACS HUM 4.2.1	Identify the reasons for conflict.	3		ALL
ACS HUM 4.2.2	Describe strategies to cope with human conflicts.	2	*Optional content: in your team, in the simulator*	ALL
ACS HUM 4.2.3	Describe actions to prevent human conflicts.	2		ALL

TOPIC HUM 5 — SYSTEMS				
Subtopic HUM 5.1 — Concept of systems in ATM/ANS				
ACS HUM 5.1.1	Explain the concept of systems.	2	People; procedures; equipment; ATM in system terms: simple, complicated, and complex systems; system thinking	ALL

TOPIC HUM 5 — SYSTEMS				
ACS HUM 5.1.2	Describe how changes in one part of a system may impact the other parts.	2		ALL
ACS HUM 5.1.3	Describe the role of the human in the system.	2		ALL

TOPIC HUM 6 — COMMUNICATION				
Subtopic HUM 6.1 — Communication				
ACS HUM 6.1.1	Explain effective communication in ATC operations.	2	ICAO Doc 9868	ALL
ACS HUM 6.1.2	Explain key strategies used to enable open communication.	2	*Optional content: active listening, active speaking, assertiveness, honesty, relevance, facts, neutrality*	ALL
ACS HUM 6.1.3	Describe the parameters affecting the controller's competence to communicate effectively.	2	Workload, mutual knowledge, controller versus pilot mental picture, distractions, sound, human conflicts *Optional content: communication between and within the team(s), in the simulator, with the pilots, instructors, coordination partners*	ALL
Subtopic HUM 6.2 — Effective feedback				
ACS HUM 6.2.1	Define feedback.	1		ALL
ACS HUM 6.2.2	Explain the purpose of receiving and giving feedback and its effect on performance.	2		ALL
ACS HUM 6.2.3	Consider the impact of communication styles on feedback and on conflict resolution.	2		ALL
ACS HUM 6.2.4	Integrate feedback into performance.	4		ALL

SUBJECT 7: EQUIPMENT AND SYSTEMS

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

TOPIC EQPS 1 — VOICE COMMUNICATIONS				
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, NOTAMs, SNOWTAMs, BIRDTAMs, 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*	ADC 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 the 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 the availability of information.	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 the controller working position.	3		ALL
Subtopic EQPS 3.4 — Use of the ATS surveillance system				
ACS EQPS	Use the ATS surveillance system functions.	3		APS ACS

TOPIC EQPS 3 — CONTROLLER WORKING POSITION				
3.4.1				
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 data link communications when available.	3		APS ACS
ACS EQPS 3.5.2	Characterise the use of information provided by advanced systems.	2	MTCD, AMAN, DMAN *Optional content: trajectory-based information, 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 *Optional content: European ATM Master Plan, European Plan for Aviation Safety*	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	*Optional content: procedures for total or partial degradation of ground–air and landline communications, alternative methods of transferring data*	ALL
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: navigational aids, 'European GNSS Contingency/Reversion Handbook for PBN Operations'*	ALL

TOPIC EQPS 5 — EQUIPMENT AND SYSTEMS' LIMITATIONS AND DEGRADATION				
ACS EQPS 5.3.2	Apply contingency procedures in the event of navigational equipment degradation.	3	*Optional content: vertical separation, information to aircraft, navigational assistance, seeking assistance from adjacent units*	ALL
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 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 processing system degradation.	3		APS ACS

SUBJECT 8: PROFESSIONAL ENVIRONMENT

TOPIC PEN 1 — FAMILIARISATION				
Subtopic PEN 1.1 — Study visit to an area control centre				
ACS PEN 1.1.1	Appreciate the functions and provision of operational area control service.	3	Study visit to an 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, firefighting 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	Appreciate the role of an air navigation service provider.	3	Regulation (EU) 2018/1139	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 aviation's impact on the environment.	3	*Optional content: free route airspace (FRA), night/weekend routes, continuous descent operations (CDO), continuous climb operations (CCO), ICAO Doc 10013 — Operational Opportunities to reduce fuel burn and emissions*	ACS

SUBJECT 9: 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, GNSS failure*	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, radio silence instruction	ALL
ACS ABES 2.1.2	Apply change of radiotelephony call sign.	3	Regulation (EU) No 923/2012 *Optional content: ICAO Doc 4444*	ALL
Subtopic ABES 2.2 — Avoidance of mental overload				
ACS ABES 2.2.1	Describe actions to keep the situation under control.	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 the effective dissemination 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 (ABES)				
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 to be followed by a pilot when experiencing complete or partial radio failure.	2	Regulation (EU) No 923/2012 *Optional content: ICAO Doc 4444, military procedures, simulator operation procedures*	ALL
ACS ABES 3.2.2	Apply the procedures to be followed when a pilot experiences complete or partial radio failure.	3	Regulation (EU) No 923/2012 *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	Regulation (EU) No 923/2012 *Optional content: simulator operation procedures*	ALL
Subtopic ABES 3.4 — Strayed or unidentified aircraft				

TOPIC ABES 3 — PROCEDURES FOR ABNORMAL AND EMERGENCY SITUATIONS (ABES)				
ACS ABES 3.4.1	Apply the procedures for strayed aircraft.	3	Regulation (EU) No 923/2012 *Optional content: inside controlled airspace, outside controlled airspace*	ALL
ACS ABES 3.4.2	Apply the procedures for unidentified aircraft.	3	Regulation (EU) No 923/2012	ALL
Subtopic ABES 3.5 — Diversion				
ACS ABES 3.5.1	Provide navigational assistance to aircraft diverting in emergency.	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	Regulation (EU) No 923/2012 *Optional content: total/partial failure, impact on ADS-B/Mode S capability*	APS ACS
Subtopic ABES 3.7 — Interception of civil aircraft				
ACS ABES 3.7.1	Explain the procedures in the event of interception of civil aircraft.	2	Regulation (EU) No 923/2012	*ALL*

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.

AMC1 ATCO.D.025(c);(d) Basic training examinations and assessment

REQUIRED COMPETENCIES FOR BASIC TRAINING

The assessment should be based on the competencies defined in point ATCO.D.025(c) and on the following associated minimum observable behaviours (OBs):

Competencies	OBs for BASIC TRAINING
1. Situational awareness	OB 1.1 Monitors traffic in own area of responsibility
	OB 1.2 Checks and uses available tools to scan and comprehend operational situations

Competencies	OBs for BASIC TRAINING
	OB 1.3 Processes the information acquired from monitoring and scanning to maintain situational awareness
2. Traffic and capacity management	OB 2.1 Uses prescribed procedures
	OB 2.2 Issues appropriate clearances, instructions and traffic information in a timely manner
	OB 2.3 Uses basic techniques to safely manage the traffic (e.g. identification, vectoring, traffic sequencing, assigning levels)
3. Separation and conflict resolution	OB 3.1 Identifies potential traffic conflicts
	OB 3.2 Chooses the appropriate separation method
	OB 3.3 Applies the selected method appropriately
	OB 3.4 Issues clearances and instructions to ensure that separation is maintained
	OB 3.5 Monitors the execution of separation actions
4. Communication	OB 4.1 Speaks clearly, accurately and concisely
	OB 4.2 Uses standard radiotelephony phraseology, when prescribed
	OB 4.3 Verifies accuracy of readbacks and if necessary, corrects
5. Coordination	OB 5.1 Recognises the need for coordination
	OB 5.2 Applies the available means for coordination
	OB 5.3 Uses clear, concise terminology for verbal coordination, and if available, standard ATS message formats for non-verbal coordination
6. Self-management	OB 6.1 Accepts responsibility for own performance
7. Teamwork	OB 7.1 Performs duties and actions in a manner that fosters a team environment
	OB 7.2 Demonstrates consideration of and tolerance for other people, when applicable

AMC1 ATCO.D.025(c);(e) Basic training examinations and assessment

BASIC TRAINING — REQUIRED LEVEL OF PERFORMANCE

The training organisation should establish the required level of performance when assessing whether the competence required for the successful completion of basic training has been achieved (competency standard) and the specific environment in which competent performance should be demonstrated (conditions).

GM1 ATCO.D.025(c);(e) Basic training examinations and assessment

OBSERVABLE BEHAVIOURS (OBs)

All OBs should be demonstrated. If an OB includes the phrases 'if necessary' or 'when applicable', that behaviour need only be demonstrated if the circumstances require it. In instances where the circumstances do not require that behaviour, they may be marked as 'not applicable'.

AMC1 ATCO.D.035(c);(e) Rating training examinations and assessment

REQUIRED COMPETENCIES AND COMPETENCY STANDARD FOR RATING TRAINING

The assessment should be based on the competencies defined in point ATCO.D.035(c) and on the following associated minimum observable behaviours (OBs) and competency standard:

Competencies	Observable behaviours (OBs)
1. Situational awareness	OB 1.1 Monitors traffic in own area of responsibility and in adjacent area(s) (e.g. adjacent sectors, apron)
	OB 1.2 Monitors the meteorological conditions that impact on own area of responsibility and on adjacent area(s)
	OB 1.3 Monitors the status of ATC systems and equipment
	OB 1.4 Acquires information from available sources (e.g. surveillance and flight data systems, meteorological data, electronic data displays, verbal requests)
	OB 1.5 Analyses the actual situation based on information acquired from monitoring and scanning
	OB 1.6 Identifies potential threats and errors
	OB 1.7 Verifies that information is accurate and corrects when doubt exists, if necessary
2. Traffic and capacity management	OB 2.1 Identifies situations that have the potential to become unsafe
	OB 2.2 Uses a variety of techniques to safely and effectively manage the traffic (e.g. speed control, vectoring, traffic sequencing, assigning climb/descent rate)
	OB 2.3 Uses prescribed procedures
	OB 2.4 Issues clearances and instructions that take into account aircraft performance, airspace constraints, weather and environmental impact
	OB 2.5 Provides increased safety margins, if necessary
	OB 2.6 Issues clearances and instructions that result in an efficient traffic flow
	OB 2.7 Uses available tools to reduce delays and optimise flight profiles

Competencies	Observable behaviours (OBs)
	OB 2.8 Issues necessary information in a relevant, accurate and timely manner (e.g. traffic information, runway condition, weather information, status of airspace, aerodrome resources and status of facilities)
	OB 2.9 Issues information on potentially hazardous situations (e.g. moderate/severe turbulence, icing, wake turbulence, unauthorised traffic on a runway, collision hazard, jet blast hazard)
3. Separation and conflict resolution	OB 3.1 Detects potential traffic conflicts
	OB 3.2 Selects the appropriate separation method
	OB 3.3 Applies the selected method appropriately
	OB 3.4 Issues clearances and instructions to ensure that separation is maintained
	OB 3.5 Issues clearances and instructions to resolve conflicts
	OB 3.6 Monitors the execution of separation actions
	OB 3.7 Adjusts control actions, if necessary, to maintain separation
	OB 3.8 Initiates corrective action to restore appropriate separation as soon as possible, if necessary
	OB 3.9 Resolves conflicts through coordination
4. Communication	OB 4.1 Selects communication mode (e.g. radio, telephone) that takes into account the requirements of the situation, including speed, accuracy and level of detail of the communication
	OB 4.2 Speaks clearly, accurately and concisely
	OB 4.3 Uses standard radiotelephony phraseology, when prescribed
	OB 4.4 Uses plain language when standardised phraseology does not exist or when the situation warrants it
	OB 4.5 Verifies accuracy of readbacks and, if necessary, corrects
	OB 4.6 Adjusts verbal communication techniques to suit the situation (e.g. rate of speech, use of phonetic alphabet for clarity, words twice, separating instructions)
5. Coordination	OB 5.1 Identifies the need for coordination
	OB 5.2 Coordinates in a timely manner
	OB 5.3 Coordinates using the prescribed coordination procedures (e.g. movement, control, transfer of control and changes previously coordinated for flights)

Competencies	Observable behaviours (OBs)
	OB 5.4 Coordinates changes of status of operational facilities (e.g. equipment, systems, functions) and/or status of airspace and/or aerodrome resources
	OB 5.5 Conducts effective handover
6. Management of non-routine situations	OB 6.1 Identifies the possibility of an emergency or abnormal situation developing
	OB 6.2 Verifies the nature of the emergency or abnormal situation, where ambiguity exists
	OB 6.3 Provides appropriate assistance
7. Problem-solving and decision-making	OB 7.1 Uses appropriate tools to assist in determining possible solutions to a problem
	OB 7.2 Ensures a safe and efficient solution to a problem
	OB 7.3 Prioritises actions in an appropriate order
	OB 7.4 Applies an appropriate mitigation strategy for the threats and/or errors identified (e.g. increased vertical separation in case of CAT, go-around if RWY is blocked, etc.)
8. Self-management	OB 8.1 Accepts responsibility for own performance
	OB 8.2 Evaluates the effectiveness of actions and feedback for improving performance, when applicable
	OB 8.3 Maintains self-control in changing and/or adverse situations
9. Workload management	OB 9.1 Manages tasks effectively in response to current and future workload
	OB 9.2 Manages interruptions and distractions effectively
	OB 9.3 Delegates tasks to reduce workload, if necessary
	OB 9.4 Integrates assistance if offered or requested, and if necessary, to reduce workload
	OB 9.5 Adjusts the pace of work according to workload
	OB 9.6 Uses ATS equipment to perform tasks in an efficient and timely manner (e.g. strip marking, updating radar labels, use of automated functions)
10. Teamwork	OB 10.1 Demonstrates consideration of and tolerance for other people, if necessary
	OB 10.2 Ensures that actions and duties are carried out in a manner that fosters a team environment
	OB 10.3 Responds appropriately to the needs of others

Competencies	Observable behaviours (OBs)
COMPETENCY STANDARD	
The candidate should meet the following competency standard: 1. **Safety should be ensured by the candidate. No unsafe outcomes should be caused by the action(s) or inaction(s) of the candidate at any time**. 2. Integrated performance of all the competencies should be achieved. 3. All observable behaviours should be demonstrated. If an observable behaviour includes the phrases 'if necessary' or 'when applicable', that behaviour need only be demonstrated if the circumstances require it. In instances where the circumstances do not require that behaviour, they may be marked as 'not applicable'. 4. The observable behaviours associated with the competency 'Separation and conflict resolution' should **always** be demonstrated in all instances when the context requires them. 5. The observable behaviours associated with all competencies (except 'Separation and conflict resolution') should **almost always** be demonstrated in all instances when the context requires them.	

AMC2 ATCO.D.035(c);(e) Rating training examinations and assessment

AERODROME CONTROL (ADC) RATING — CONDITIONS

The conditions defined as acceptable when assessing whether or not competence for the issue of an ADC rating has been demonstrated are as follows:

Conditions for the ADC rating	
The candidate will be able to consistently demonstrate, without any assistance or prompts from the assessor, integrated performance of all the competencies under the following conditions:	
SIMULATED ENVIRONMENT Simulated aerodrome control services environment that provides a view of the movement area and the aerodrome traffic	The environment should include: 1. a control zone, 2. at least one instrument runway with at least three runway holding positions, 3. at least one taxiway that is parallel to the runway, 4. at least one apron, 5. one approach control unit above the CTR, 6. at least a portion of uncontrolled airspace adjacent to the CTR. The CTR is Class C or D airspace.

TRAFFIC Each assessed exercise, of at least 45 minutes, should include, as a minimum, the following traffic inside controlled airspace:	1. **Flight rules**: mix of IFR and VFR flights. 2. **Aerodrome traffic**: arrivals, departures, transiting flights and other aerodrome traffic (e.g. circuit traffic/vehicles, etc.). 3. **Aircraft types**: heavy and medium jets, medium turboprops, light aircraft and helicopters. 4. **Traffic levels**: at least 24 aircraft movements. If the duration of the assessment is increased, the number of aircraft movements should be increased proportionally. 5. **Peak traffic**: at least 5 aircraft and/or vehicles will generate conflicts and/or actions simultaneously during the peak of the exercise. 6. **Traffic scenarios** should include: a. arriving and departing aircraft with different wake turbulence and performance specifications, b. consecutive IFR departures with faster aircraft following slower aircraft, c. consecutive IFR arrivals, d. integration of IFR arrivals and departures on the same runway, e. VFR departing and leaving the CTR, f. VFR arrival from outside the CTR, g. VFR transiting the CTR, h. integration of VFR aircraft in/through the aerodrome traffic circuit from the entry points and visual holdings, i. management of aircraft being towed or repositioning (i.e. not landing or departing) and vehicles on the manoeuvring area, j. vehicle entering or crossing the runway-in-use.
SITUATIONS Each assessed exercise should include, as a minimum, one of the following situations:	1. IFR missed approach 2. Runway incursion 3. Aborted take-off 4. Special VFR flight 5. Circling 6. Blocked taxiway 7. Degraded systems and/or equipment 8. Any other non-routine situation
WORKING POSITION CONFIGURATION	The aerodrome controller provides all aerodrome control services from a single working position.
TOOLS AND EQUIPMENT	1. Voice communication panel 2. Aerodrome lighting panel 3. Support information (e.g. maps, weather, airspace reservation, etc.) and the navigation equipment status system

With the use of at least the following tools and equipment:	4. Electronic/paper flight progress strip/list
APPLICABLE STANDARDS AND PROCEDURES	1. Regulation (EU) No 923/2012 Regulation (EU) 2017/373 Regulation (EU) No 376/2014 2. ADC Simulator Local Operating Procedures

AMC3 ATCO.D.035(c);(e) Rating training examinations and assessment

APPROACH CONTROL PROCEDURAL (APP) RATING — CONDITIONS

The conditions defined as acceptable when assessing whether or not competence for the issue of an APP rating has been demonstrated are as follows:

Conditions for the APP rating	
The candidate will be able to consistently demonstrate, without any assistance or prompts from the assessor, integrated performance of all the competencies under the following conditions:	
SIMULATED ENVIRONMENT Simulated approach control procedural services environment	The environment should include: 1. control area, 2. holding pattern(s), 3. arrival and departure routes, 4. precision and non-precision approach procedures, 5. an adjacent area control sector, 6. a portion of uncontrolled airspace adjacent to the APP sector, 7. at least one airport below the approach sector with a CTR. The approach sector should be notified as Class C or D airspace.

TRAFFIC Each assessed exercise, of at least 45 minutes, should include, as a minimum, the following traffic inside controlled airspace:	1. **Flight rules**: mostly IFR traffic with at least one VFR flight. 2. **Flight profiles**: mix of arrivals, departures and at least one transiting flight. 3. **Aircraft types**: heavy and medium jets, medium turboprops, light aircraft. 4. **Traffic levels**: at least 9 aircraft. If the duration of the assessment is increased, the number of aircraft should be increased proportionally. 5. **Traffic scenarios** should include: a. at least two instances of an inbound versus outbound conflict, b. aircraft with different performance specifications requiring coordination and the use of procedural separation, c. at least two successive departures, d. at least two successive arrivals, e. aircraft arriving from or departing to uncontrolled airspace.
SITUATIONS Each assessed exercise should include, as a minimum, one of the following situations:	1. Adverse weather 2. Runway change 3. Diversion with no emergency 4. IFR missed approach 5. Degraded systems and/or equipment 6. Any other non-routine situation appropriate to procedural environment
WORKING POSITION CONFIGURATION	The executive controller provides all services from a single working position.
TOOLS AND EQUIPMENT With the use of at least the following tools and equipment:	1. Voice communication panel 2. Electronic/paper flight progress strip/list 3. Support information (e.g. maps, weather information, airspace reservation, aircraft progress visualisation aid, etc.) and the navigation equipment status system
APPLICABLE STANDARDS AND PROCEDURES	1. Regulation (EU) No 923/2012 Regulation (EU) 2017/373 Regulation (EU) No 376/2014 2. APP Simulator Local Operating Procedures

AMC4 ATCO.D.035(c);(e) Rating training examinations and assessment

AREA CONTROL PROCEDURAL (ACP) RATING — CONDITIONS

The conditions defined as acceptable when assessing whether or not competence for the issue of an ACP rating has been demonstrated are as follows:

Conditions for the ACP rating	
The candidate will be able to consistently demonstrate, without any assistance or prompts from the assessor, integrated performance of all the competencies under the following conditions:	
SIMULATED ENVIRONMENT Simulated area control procedural services environment	The environment shall include: 1. at least one airport within the lateral boundaries of the ACP sector, 2. at least one approach control sector below the CTA, 3. a portion of airspace below the CTA that is uncontrolled airspace.
TRAFFIC Each assessed exercise, of at least 45 minutes, should include, as a minimum, the following traffic inside controlled airspace:	1. **Traffic rules**: mostly IFR traffic with occasional VFR flights or military jets. 2. **Traffic profiles**: mix of overflights, arrivals and departures. 3. **Aircraft types**: heavy and medium jets, medium turboprops. 4. **Traffic levels:** at least 12 aircraft. If the duration of the assessment is increased, the number of aircraft should be increased proportionally. 5. **Traffic scenarios** shall include: a. a conflict involving a descending aircraft, b. a conflict involving the use of longitudinal separation, c. a conflict involving the use of lateral separation, d. a conflict requiring coordination with the approach control sector or neighbouring sectors, e. traffic descending into uncontrolled airspace.
SITUATIONS Each assessed exercise should include, as a minimum, one of the following situations:	1. Level change requests due to turbulence 2. Diversion with no emergency 3. Any non-routine situation appropriate to the procedural environment
WORKING POSITION CONFIGURATION	The executive controller provides all services from a single working position.
TOOLS AND EQUIPMENT With the use of at least the following tools and equipment:	1. Voice communication panel 2. Electronic/paper flight progress strip/list 3. Support information system (e.g. maps, weather information, airspace reservation, aircraft progress visualisation aid, etc.) and navigation equipment status system

APPLICABLE STANDARDS AND PROCEDURES	1. Regulation (EU) No 923/2012 Regulation (EU) 2017/373 Regulation (EU) No 376/2014 2. ACP Simulator Local Operating Procedures

AMC5 ATCO.D.035(c);(e) Rating training examinations and assessment

APPROACH CONTROL SURVEILLANCE (APS) RATING — CONDITIONS

The conditions defined as acceptable when assessing whether or not competence for the issue of an APS rating has been demonstrated are as follows:

Conditions for the APS rating	
The candidate will be able to consistently demonstrate, without any assistance or prompts from the assessor, integrated performance of all the competencies under the following conditions:	
SIMULATED ENVIRONMENT Simulated approach control surveillance services environment	The environment should include: 1. control area, 2. holding pattern(s), 3. arrival and departure routes, 4. precision and non-precision approach procedures, 5. an adjacent area control sector, 6. a portion of uncontrolled airspace adjacent to the APS sector, 7. at least one airport below the approach sector with a CTR. The approach sector should be notified as Class C or D airspace.

TRAFFIC Each assessed exercise, of at least 45 minutes, should include, as a minimum, the following traffic inside controlled airspace:	1. **Flight rules**: mostly IFR traffic with at least one VFR flight. 2. **Flight profiles**: mix of arrivals, departures and transiting flights. 3. **Aircraft types**: heavy and medium jets, medium turboprops, light aircraft. 4. **Traffic levels**: at least 20 aircraft. If the duration of the assessment is increased, the number of aircraft should be increased proportionally. 5. **Peak traffic:** at least 5 aircraft will generate conflicts and/or actions simultaneously during the peak of the exercise. 6. **Traffic scenarios** should include: a. aircraft conflicts with different wake turbulence categories, b. aircraft conflicts with different performance specifications (e.g. fast aircraft following a slow aircraft), c. conflict between arriving and departing aircraft, d. conflict between arriving or departing aircraft with a transiting aircraft, e. sequencing of conflicting aircraft to the landing runway, f. situation that requires the integration of aircraft approaching from uncontrolled airspace, g. situation that requires the provision of flight information service to VFR (inside or outside controlled airspace).
SITUATIONS Each assessed exercise should include, as a minimum, one of the following situations:	1. Adverse weather 2. IFR missed approach 3. ILS failure 4. Activation of TSA/TRA (e.g. paragliding activities) 5. Navigation assistance to an aircraft 6. OAT or priority flight (e.g. air ambulance, search and rescue) 7. Degraded systems and/or equipment 8. Any non-routine situation
WORKING POSITION CONFIGURATION	The executive controller provides all services from a single working position.
TOOLS AND EQUIPMENT With the use of at least the following tools and equipment:	1. Surveillance system (with Mode S) 2. Voice communication panel 3. OLDI 4. STCA and/or MTCA systems 5. Support information (e.g. maps, weather information, airspace reservation, etc.) and navigation equipment status system 6. Flight data processing system 7. Electronic/paper flight progress strip/list

APPLICABLE STANDARDS AND PROCEDURES	1. Regulation (EU) No 923/2012 Regulation (EU) 2017/373 Regulation (EU) No 376/2014 2. APS Simulator Local Operating Procedures

AMC6 ATCO.D.035(c);(e) Rating training examinations and assessment

AREA CONTROL SURVEILLANCE (ACS) RATING — CONDITIONS

The conditions defined as acceptable when assessing whether or not competence for the issue of an ACS rating has been demonstrated are as follows.

Conditions for the ACS rating	
The candidate will be able to consistently demonstrate, without any assistance or prompts from the assessor, integrated performance of all the competencies under the following conditions:	
SIMULATED ENVIRONMENT Simulated area control surveillance services environment	The simulated environment should include: 1. at least one airport within the lateral boundaries of the ACS sector, 2. other airports below the adjacent sectors, 3. RVSM airspace.

TRAFFIC Each assessed exercise, of at least 45 minutes, should include, as a minimum, the following traffic inside controlled airspace:	1. **Flight rules**: IFR traffic as a minimum (optionally VFR traffic). 2. **Flight profiles**: mix of overflights, arrivals and departures with at least 50 % of the total aircraft to climb or descent. 3. **Aircraft types**: heavy and medium jets, medium turboprops, business jets, high-performance military jets, light aircraft. 4. **Traffic levels**: at least 28 aircraft. If the duration of the assessment is increased, the number of aircraft should be increased proportionally. 5. **Peak traffic**: at least 6 aircraft will generate conflicts and/or actions simultaneously during the peak of the exercise. 6. **Traffic scenarios** should include: a. conflicting aircraft on the same track, b. conflicting aircraft climbing/descending through the level of other aircraft on same, crossing and opposite tracks, c. crossing conflicts on bi-directional tracks, d. converging aircraft requiring actions to meet transfer-of-control requirements, with at least one fast aircraft following a slower one, e. manage multiple aircraft descending into a lower and adjacent sector, f. integration of departing aircraft with en-route traffic, g. conflict between aircraft that requires coordination between two vertically adjacent sectors (e.g. approach sector or area sector). 7. The scenarios in 1 to 6 above should take place in an airspace volume of 120 NM × 130 NM × 17 000 ft or smaller. The volume may be of any uninterrupted shape.
SITUATIONS Each assessed exercise should include, as a minimum, one of the following situations:	1. Adverse weather 2. Level change requests due to turbulence 3. Level bust TCAS RA 4. Diversion with the METAR request (no emergency) 5. Degraded systems and/or equipment 6. Any non-routine situation
WORKING POSITION CONFIGURATION	The executive controller and the planner controller provide all services from two adjacent positions in identical configuration.
TOOLS AND EQUIPMENT With the use of at least the following tools and equipment:	1. Surveillance radar system (with Mode S) 2. Voice communication panel 3. OLDI 4. STCA and/or MTCA systems

	5. Support information system (e.g. maps, weather information, airspace reservation, etc.) 6. Flight data processing system 7. Electronic/paper flight progress strip/list
APPLICABLE STANDARDS AND PROCEDURES	1. Regulation (EU) No 923/2012 Regulation (EU) 2017/373 Regulation (EU) No 376/2014 2. ACS Simulator Local Operating Procedures

GM1 ATCO.D.035(a) Rating training examinations and assessment

A minimum of two consecutive, different assessment exercises is suggested for rating training courses. This number satisfies the CBTA principle in point ATCO.D.003(b)(3) that the assessment of competencies is based on multiple observations across multiple contexts.

For the ACS rating, a minimum of two consecutive, different assessment exercises is suggested for each position (executive and planner position).

GM1 ATCO.D.035(c);(e) Rating training examinations and assessment

REQUIRED COMPETENCIES FOR RATING TRAINING

The combination of the competencies detailed in point ATCO.D.035(c), the observable behaviours (OBs) and the competency standard detailed in AMC1 ATCO.D.035(c);(e), and the conditions detailed in AMC2 to AMC6 to ATCO.D.035(c);(e) constitute an adapted competency model (ACM). The ACM (competencies, OBs, conditions and competency standard) for each rating describes the assessment context for the purpose of determining whether the candidate is able to demonstrate the required competence for a specific rating. Nonetheless, the rating training programme will contain more training objectives than those assessed during the assessment exercises.

Examples are provided below as regards the articulation between training objectives and the assessment exercises:

> **Example 1:** While the training objectives for all ratings require handover and takeover to be trained, the observable behaviour in the ACM only requires a handover to be demonstrated (OB 5.5). From a practical perspective, most assessment exercises typically do not start with a controller in position and from which the candidate could demonstrate a realistic takeover. Consequently, the assessment only requires that a handover be performed. This could easily be achieved at the end of the assessment exercise with the candidate 'handing over' to the assessor.
>
> **Example 2:** While the training objectives for all ratings require students to be trained to respond to pilot notifications of actions based on airborne system warnings (ACAS and/or TAWS), the conditions for the assessment sessions **do not specifically require** this to be

demonstrated. Nonetheless, the SITUATIONS category of the conditions does allow a training organisation to optionally include a response to airborne system warnings in the assessment exercise(s), if they consider this important for their environment.

Example 3: Management of non-routine situations — the OBs for this competence do not include the behaviours associated with managing degraded modes of operation. Nonetheless, the initial training topic, dealing with 'Equipment and systems limitations and degradation', requires the student to be trained to manage communication, navigation and, when appropriate, surveillance and ATC processing system degradation. While this is not included in the assessment exercises for the purposes of determining competence for the issuance of the rating, providers of initial training courses may decide to evaluate the performance of the student when managing emergency situations and degraded modes of operation as a prerequisite to undertaking the assessment. The existing observable behaviours already enable the management of emergency situations; however, the following observable behaviours may additionally be used to evaluate the management of degraded modes of operation:

OB — Identifies that ATS systems and/or equipment have degraded.

OB — Assesses the impact of the degradation on operations.

OB — Uses prescribed procedures for degraded modes of operation.

OB 1.5 This behaviour may be challenging to observe in order to assess whether the candidate demonstrates competent performance; however, the absence of this behaviour will be evident in the candidate's subsequent actions. Consequently, the presence of this behaviour may be inferred from the demonstration of competent performance.

OB 1.6 Further information on threat and error management to support OB 1.6 may be obtained from ICAO Circular 314 'Threat and Error Management (TEM)' in air traffic control. Possible examples of threats and errors include high traffic volumes, mountainous terrain, complex airspace infrastructure, complex ATC procedures, adverse weather, unserviceable navigational equipment, flight crew unfamiliar with airport or procedures.

OB 2.7 This OB does not require any additional tools that specifically optimise arrival or departure sequences such as AMAN (Arrival Manager) or DMAN (Departure Manager). Instead, this behaviour relates to the generic tools that are typically available, such as speed vectors and surface movement radars. If, as may be the case for the procedural ratings, there are no tools available that support reducing delays or optimising flight profiles, this OB is not applicable.

OB 3.8 This OB is included to ensure that if the required separation minima are lost, the candidate will take action to restore them as soon as possible, irrespective of the circumstances that caused it. Circumstances may include failure of flight crew to comply with instructions, misunderstanding, emergency descent, or the actions of the candidate themselves. This is an OB that is required to be demonstrated only if the circumstance results in a reduction of separation.

OB 8.2 This behaviour may be observed when a candidate self-corrects, namely does not repeat poor decisions, prioritisation errors or mistakes. If the performance of the candidate is such that there is no suboptimal performance, then this OB is marked as 'not necessary'.

OB 9.3 The performance of the candidate may be such that there is no need for them to delegate tasks. In this case, the OB is marked as 'not necessary'.

OBs 10.1 to 10.3 Teamwork may be interpreted widely, with behaviours being demonstrated in relation to any personnel the candidate interacts with, e.g. adjacent sector personnel, airport personnel, pilots, etc.

COMPETENCY STANDARD

The competency standard applies to both the overall performance and the level of performance for each competency during the assessment. Initial training organisations develop their own grading scheme to manifest the competency standard.

The phrase 'almost always' applies to all competencies except 'Separation and conflict resolution'. 'Almost always' means that a small number of omissions of observable behaviours that do not result in a compromise in safety are permitted.

An example of how to understand the application of the competency standard for '**Separation and conflict resolution**' is detailed below:

> 'A candidate has achieved the *Separation and conflict resolution* competency when the outcome of the performance ensures safety, and they have demonstrated all the observable behaviours associated with this competency and have done so in all instances when the context requires them'.

An example of how to understand the application of the competency standard '**Communication**' is detailed below:

> 'A candidate has achieved the *Communication* competency when the outcome of the performance ensures safety, and they have demonstrated all the observable behaviours associated with this competency and have done so in almost all instances when the context requires them'.

Use of the phrase 'if necessary'. Observable behaviours 1.7, 2.5, 3.7, 3.8, 4.5, 8.2, 9.3, 9.4 and 10.1 contain the phrase 'if necessary' in their description.

GM2 ATCO.D.035(c);(e) Rating training examinations and assessment

AERODROME CONTROL (ADC) RATING — CONDITIONS

SIMULATED ENVIRONMENT

The simulated aerodrome environment describes a minimum configuration. It is possible to have a more complex environment including parallel or cross runways; however, the assessment exercises should ensure that the traffic levels (TRAFFIC, point 4) and traffic scenarios (TRAFFIC, point 6) are respected.

GM3 ATCO.D.035(c);(e) Rating training examinations and assessment

AERODROME CONTROL (ADC) RATING — CONDITIONS

TRAFFIC — 4. TRAFFIC LEVELS

To determine the number of 'aircraft movements' in the assessment exercises for the ADC rating, the following list constitutes one aircraft movement:

— take-off or landing (including helicopters),

— touch-and-go = 2 movements,

— low approach or go-around = 1 movement,

— aircraft transiting the control zone.

GM4 ATCO.D.035(c);(e) Rating training examinations and assessment

AERODROME CONTROL (ADC) RATING — CONDITIONS

TRAFFIC — 5. PEAK LEVELS

The requirement on peak traffic is included to ensure that the candidate is exposed to multiple situations occurring at the same time so that they will be able to demonstrate their ability to manage a minimum level of complexity. The complexity is generated through the combination of traffic levels and traffic scenarios with the requirement on peak traffic, ensuring that some of these situations occur at the same time.

To determine whether the requirement on peak traffic is achieved for each assessment exercise, the following method may be used.

(a) Determine the time in the assessment exercise when the maximum number of aircraft are on frequency. Assume that the candidate has managed the exercise effectively up to this point.

(b) Count the number of situations in which the candidate would be actively engaged within the 3 minutes before and after this time to ensure that a conflict does not arise, or if a potential conflict has been detected, it is actively managed. This includes issuing of instructions to ensure that safety is maintained, monitoring of a situation to ensure that instructions/clearances achieve or maintain the desired separation or safety, etc. The key point is to count the situations that the candidate manages/monitors simultaneously at the peak time to ensure safety.

Note: Routine actions such as transferring aircraft to the next sector or to uncontrolled airspace with no other conflicting traffic would not be counted.

GM5 ATCO.D.035(c);(e) Rating training examinations and assessment

APPROACH CONTROL SURVEILLANCE (ACS) — CONDITIONS

TRAFFIC — 5. PEAK TRAFFIC

The requirement on peak traffic is included to ensure that the candidate is exposed to multiple situations occurring at the same time so that they will be able to demonstrate their ability to manage a minimum level of complexity. The complexity is generated through the combination of traffic levels and traffic scenarios with the requirement on peak traffic, ensuring that some of these situations occur at the same time.

To determine whether the requirement on peak traffic is achieved for each assessment exercise, the following method may be used.

(a) Determine the time in each assessment exercise when the maximum number of aircraft are on frequency. Assume that the candidate has managed the exercise effectively up to this point.

(b) Count the number of situations in which the candidate would be actively engaged within the 3 minutes before and after this time to ensure that a loss of separation does not arise, or if a potential loss of separation is detected, it is actively managed. This includes issuing of instructions to ensure separation, monitoring of a situation to ensure that instructions/ clearances achieve or maintain the desired separation, issuing instructions and monitoring compliance to ensure that critical exit conditions are met, etc. The key point is to count the situations that the candidate manages/monitors simultaneously at the peak time to ensure safety.

Note: Routine actions such as transferring aircraft to the next sector with no other conflicting traffic would not be counted.

GM6 ATCO.D.035(c);(e) Rating training examinations and assessment

AREA CONTROL SURVEILLANCE (ACS) RATING — CONDITIONS

TRAFFIC — 1. FLIGHT RULES

This is optional depending on whether the assessment includes VFR traffic. Irrespective of whether or not the assessment exercises include VFR traffic, it remains a requirement to train students in the management of VFR traffic [Training objective: ACS ATM 10.2.3].

GM7 ATCO.D.035(c);(e) Rating training examinations and assessment

AREA CONTROL SURVEILLANCE (ACS) RATING — CONDITIONS

TRAFFIC — 5. PEAK TRAFFIC

The requirement on peak traffic is included to ensure that the candidate is exposed to multiple situations occurring at the same time so that they will be able to demonstrate their ability to manage a minimum level of complexity. The complexity is generated through the combination of traffic levels and traffic scenarios with the requirement on peak traffic, ensuring that some of these situations occur at the same time.

To determine whether the requirement on peak traffic is achieved for each assessment exercise, the following method may be used.

(a) Determine the time in each assessment exercise where the maximum number of aircraft are on frequency. Assume that the candidate has managed the exercise effectively up to this point.

(b) Count the number of situations in which the candidate would be actively engaged within the 3 minutes before and after this time to ensure that a loss of separation does not arise, or if a potential loss of separation is detected, it is actively managed. This includes issuing of instructions to ensure separation, monitoring of a situation to ensure that instructions/ clearances achieve or maintain the desired separation, issuing instructions and monitoring compliance to ensure that critical exit conditions are met, etc. The key point is to count the situations that the candidate manages/monitors simultaneously at the peak time to ensure safety.

Note: Routine actions such as transferring aircraft to the next sector with no other conflicting traffic would not be counted.

GM8 ATCO.D.035(c);(e) Rating training examinations and assessment

AREA CONTROL SURVEILLANCE (ACS) RATING — CONDITIONS

TRAFFIC — 7. VOLUME WITHIN WHICH TRAFFIC SCENARIOS SHOULD OCCUR

This condition ensures that the density of traffic and the consequent interaction among aircraft are adequately complex. While the lateral and vertical dimensions of the simulated sector area may be larger than 120 NM × 130 NM × 2.8 NM (17 000 ft), the traffic levels, peak traffic and traffic scenarios described in point 6 should occur within the defined volume.

The lateral and vertical dimensions of the airspace volume where the scenarios occur may be smaller than what is defined; nonetheless, the requirements concerning traffic levels, peak traffic and traffic scenarios (contained in the TRAFFIC condition) should be respected.

GM9 ATCO.D.035(c);(e) Rating training examinations and assessment

AREA CONTROL SURVEILLANCE (ACS) RATING — CONDITIONS

WORKING POSITION CONFIGURATION

This condition requires the candidate to be assessed separately as an executive controller and as a planner controller, at least twice for each position. Although the observable behaviours are mostly applicable to both positions, initial training organisations may determine, based on their operational concept, which behaviours will be assessed for each position. For the determination of competence, the results of the assessments for both positions are combined.

SECTION 3 – UNIT TRAINING REQUIREMENTS

AMC1 ATCO.D.043(a) Principles of competency-based training and assessment for unit training

RELEVANT COMPETENCIES FOR UNIT TRAINING

To train an individual and assess their capacity to perform at the standard expected at a given ATC unit, the training organisation should develop an adapted competency model (ACM) suitable for the specific local environment using as a minimum the competencies for rating training, as defined in point ATCO.D.035(c).

The ACM should reflect the ATS unit's specific local environment and requirements. The selection or adaptation of the associated observable behaviours (OBs) should be based on the ICAO ATC competency framework as defined in Doc 9868 'Procedures for Air Navigation Services — Training', third edition, 2020, and on an analysis of the specific environment considering the regulatory, operational, technical and organisational requirements, and considering also AMC1 ATCO.D.035(c);(e).

GM1 ATCO.D.043(a) Principles of competency-based training and assessment for unit training

COMPETENCIES RELEVANT FOR UNIT TRAINING

The observable behaviours (OBs) included in AMC1 ATCO.D.035(c);(e) are defined for initial training and are, therefore, not sufficient to satisfy the requirements on unit training. Further guidance on OBs and the development of an adapted competency model (ACM) for unit training may be found in ICAO Doc 9868 'Procedures for Air Navigation Services — Training', third edition, 2020, and in ICAO Doc 10056 'Manual on Air Traffic Controller Competency-based Training and Assessment' second edition, 2022.

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) 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.

(c) 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.

(d) 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 applicants during unit training in team resource management (TRM), fatigue management and stress management.

(b) Training organisations should develop training objectives for the TRM, fatigue management and stress management training.

GM1 ATCO.D.045(c)(4) Composition of unit training

TRAINING IN TEAM RESOURCE MANAGEMENT (TRM)

Guidance on TRM may be found in the Network Manager document 'Team Resource Management — Guidelines for the Implementation and Enhancement of TRM', edition 1.0 of 26 April 2021, and associated Annex A to TRM Guidance Material — TRM Modules | SKYbrary Aviation Safety and Annex B to TRM Guidance Material — Facilitator Competence and Training | SKYbrary Aviation Safety.

AMC2 ATCO.D.045(c)(4) Composition of unit training

HUMAN FACTORS TRAINING

Human factors training should include, as a minimum, the following topics and related objectives:

(a) Basic needs of people at work

(1) List the basic needs of people at work.

(2) Characterise the factors for work satisfaction.

(b) Human performance

(1) Describe the impact of responsibility on an air traffic controller's actions.

(2) Recognise the different responsibilities of an air traffic controller.

(c) Work environment

(1) Explain the reasons for automation.

(2) Describe the advantages and constraints of automation.

(d) Team resource management (TRM)

(1) Explain the relevance of TRM.

(2) Describe the content of the TRM concept.

(e) Stress and fatigue management

(1) Describe the fatigue and stress management policy(ies) in force (at the ATS unit).

(2) Explain the procedure(s) in force for air traffic controllers to report stress and fatigue (at the ATS unit).

(3) Consider the benefits of critical incident stress management (CISM).

(f) Human error

(1) Describe the impact an occurrence/incident may have on an air traffic controller.

(2) Explain the causes and dangers of violation of rules becoming accepted as common practice.

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

UNIT TRAINING PLAN FOR A REMOTE TOWER CENTRE

For the purpose of establishing a unit training plan, a 'remote tower centre' (RTC) (defined in the EASA 'Guidance Material on remote aerodrome air traffic services' — Issue 3) may be considered as one Air Traffic Control (ATC) unit.

The unit training plan of an RTC should include the list of the unit endorsement courses for all aerodromes which the RTC is providing service to.

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, Sections 4.5.2.2.1(b) and (c) and 4.5.2.2.3.

(b) Notwithstanding point (a), the minimum duration of the on-the-job training instruction for the surveillance radar approach rating endorsement may be partly substituted by utilising a simulator, if approved by the competent authority.

(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 point ATCO.B.015.

(d) The inclusion of surveillance radar approach duties in the privileges of the approach control surveillance rating in Annex 1 to the Chicago Convention, Section 4.5.2.2.1(c), should be read in the context of this Regulation as APS-SRA rating endorsement according to point ATCO.B.015.

GM1 ATCO.D.055(b)(7) Unit training plan

ADAPTING THE UNIT ENDORSEMENT COURSE(S)

When an applicant already holds the same rating for another unit, the training organisation may determine whether the unit endorsement course can be reduced, and if so, to what extent.

GM1 ATCO.D.060(a)(2) Unit endorsement course

ON-THE-JOB-TRAINING PHASE

(a) On-the-job training may, for pedagogical reasons, be supplemented by theoretical instruction and computer-based training, as well as by the use of part-task trainers or any type of simulator, to increase knowledge, understanding and the application of local procedures or of procedures unlikely to be encountered in the operational environment.

(b) Hours accumulated on approved synthetic training devices during this phase should not 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 in for procedures unlikely to be encountered in the operational environment during the training.

AMC1 ATCO.D.060(c) Unit endorsement course

UNIT ENDORSEMENT COURSE IN UNITS THAT PROVIDE GROUND MOVEMENT SURVEILLANCE CONTROL

The training for the provision of ground movement control with the support of aerodrome surface movement guidance systems should be included in the unit endorsement course.

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

COMPETENCIES AND PERFORMANCE CRITERIA FOR AIR TRAFFIC CONTROLLERS PROVIDING SERVICES TO AIRCRAFT CARRYING OUT FLIGHT TESTS

The competencies and performance criteria for air traffic controllers providing air traffic control services to aircraft carrying out flight tests should ensure that candidates manage the workload, provide air traffic services and apply specific ATC procedures to aircraft carrying out flight tests in accordance with point ATS.TR.160 of Commission Implementing Regulation (EU) 2017/373 laying down common requirements for providers of air traffic management / air navigation services and

other air traffic management network functions and their oversight within a defined aerodrome control tower, approach control unit and/or area control centre area of responsibility.

AMC2 ATCO.D.060(c) Unit endorsement course

UNIT ENDORSEMENT COURSE IN UNITS THAT PROVIDE TERMINAL CONTROL

The training for the provision of air traffic control (ATC) services with the use of any surveillance equipment to aircraft that operate in a specified terminal area and/or adjacent sectors should be included in the unit endorsement course. For area control surveillance (ACS) rating holders, the training should include objectives of initial training for the approach control surveillance (APS) rating related to terminal control.

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

TRAINING FOR AIR TRAFFIC CONTROLLERS PROVIDING REMOTE AERODROME AIR TRAFFIC SERVICES

The unit endorsement course should enable air traffic controllers providing aerodrome control service from a 'remote tower' (defined in the EASA 'Guidance Material on remote aerodrome air traffic services' — Issue 3) to acquire knowledge of the concept of remote aerodrome air traffic services and of the characteristics of the operating environment, to appreciate the necessity to consider the specific human factors influence on the remote aerodrome air traffic services, as well as to recognise specific abnormal situations and to manage their impact.

This could be achieved by addressing the following items:

(a) Introduction to remote aerodrome air traffic services;

(b) Concept of remote aerodrome air traffic services (described in Chapters 3 and 4 of the EASA 'Guidance Material on remote aerodrome air traffic services' — Issue 3);

(c) 'Remote tower modules' (RTMs) (defined in the EASA 'Guidance Material on remote aerodrome air traffic services'— Issue 3);

(d) 'Remote tower centre' (RTC) (defined in the EASA 'Guidance Material on remote aerodrome air traffic services' — Issue 3);

(e) Technical enablers used for remote aerodrome air traffic services (described in Section 3.5 and Chapter 5 of the EASA 'Guidance Material on remote aerodrome air traffic services' — Issue 3); and

(f) Operational applications (described in Chapters 3 and 4 of the EASA 'Guidance Material on remote aerodrome air traffic services' — Issue 3).

(g) Operating environment.

(h) Configuration of the RTM and RTC (if applicable) and modes of operation.

(i) 'Visual presentation' (defined and described in Chapter 2 and Section 5.2 of the EASA 'Guidance Material on remote aerodrome air traffic services' — Issue 3) at the RTM, for example:

  (1) layout and orientation;

  (2) technical capabilities and limitations of a 'visual surveillance system' (defined in the EASA 'Guidance Material on remote aerodrome air traffic services' — Issue 3), including among others:

(i) impact of weather conditions on site the aerodrome;

(ii) end-to-end delay;

(iii) frame rate;

(iv) any differences in light conditions between the aerodrome and the visual presentation;

(v) 'dead' pixels;

(vi) any overlaid information and any site-specific equipment/functions such as sun filters; and

(vii) seasonal settings.

(j) Set-up and characteristics of the local equipment at the aerodrome, e.g. location of cameras, signalling lamp, etc.

(k) Familiarisation with the physical aerodrome(s) environment and the different local stakeholders via study visit(s).

(l) Local weather characteristics.

(m) Human factors aspects.

(n) Human factors influence on remote aerodrome air traffic services.

Factors that can generate fatigue in a 'remote tower' environment (defined in the EASA 'Guidance Material on remote aerodrome air traffic services' — Issue 3), for example:

— eye strain caused by the performance of the visual presentation or by contrast in lighting against the background;

— artificial light and/or lack of daylight in the RTM); and

— preventing and mitigating strategies on fatigue.

Procedures for degraded modes, for example:

— complete or partial loss of the visual presentation;

— corrupt, delayed or frozen image;

— loss or degradation of the 'binocular functionality' (described in Section 5.2 of the EASA 'Guidance Material on remote aerodrome air traffic services' — Issue 3).

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

MULTIPLE MODE OF OPERATION

When performing 'multiple mode of operation' (defined and described in the EASA 'Guidance Material on remote aerodrome air traffic services' — Issue 3), in addition to GM3 ATCO.D.060(c), the following items should also be considered:

— Use of communication facilities (e.g. aeronautical mobile service, aeronautical fixed service and surface movement control service) for simultaneous provision of air traffic services in geographically separated areas of responsibility.

— Applicable procedures for traffic management, such as traffic prioritisation, enabling multiple mode of operation.

— Procedures for prioritising between aerodromes.

— Procedures for the transferring/merging/splitting of aerodromes in an RTM (defined in the EASA 'Guidance Material on remote aerodrome air traffic services' — Issue 3).

— Different weather and light conditions at different aerodromes.

— Human capabilities/limitations with regard to the simultaneous handling of more than one aerodrome and distribution of attention.

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.

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.

GM1 ATCO.D.070 Assessments during unit endorsement courses

(a) Assessments should be carried out for the issue or renewal of a unit endorsement in the form of a series of assessments, as detailed in the unit training plan.

(b) To carry out assessments, the assessor(s) should sit with the candidate 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, of maintaining a safe, orderly and expeditious flow of air traffic.

(c) The candidate concerned should be briefed on the conduct of the assessment.

(d) For those situations where a candidate'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 interview.

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

(f) The results of the oral interview will give a clear indication that the candidate knows not only what he or she should be doing, but also why he or she should be doing it. It requires considerable skills, and it should be undertaken in a way to ensure consistency among individual assessors.

SECTION 4 – CONTINUATION TRAINING REQUIREMENTS

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

REFRESHER TRAINING FOR AIR TRAFFIC CONTROLLERS PROVIDING REMOTE AERODROME AIR TRAFFIC SERVICES

For air traffic controllers holding a unit endorsement for the provision of aerodrome control service from a 'remote tower' (defined in the EASA 'Guidance Material on remote aerodrome air traffic services' — Issue 3), the refresher training should include familiarisation with the physical aerodrome environment and the different stakeholders, e.g. 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.

GM1 ATCO.D.080(b)(3) Refresher training

TRAINING IN TEAM RESOURCE MANAGEMENT (TRM)

Guidance on team resource management can be found in the Network Manager document 'Team Resource Management — Guidelines for the Implementation and Enhancement of TRM', edition 1.0 of 26 April 2021, and associated Annex A to TRM Guidance Material - TRM Modules | SKYbrary Aviation Safety and Annex B to TRM Guidance Material - Facilitator Competence and Training | SKYbrary Aviation Safety).

GM1 ATCO.D.085 Conversion training

CONVERSION TRAINING FOR AIR TRAFFIC CONTROLLERS PROVIDING REMOTE AERODROME AIR TRAFFIC SERVICES

In case of a transition from a 'conventional tower' (defined in the EASA 'Guidance Material on remote aerodrome air traffic services' — Issue 3) to a 'remote tower' (defined in the EASA 'Guidance Material on remote aerodrome air traffic services' — Issue 3), the conversion training for air traffic controllers should at least include the items listed in GM3 ATCO.D.060(c), and if applicable the items listed in GM4 ATCO.D.060(c).

In case of a transition from a 'remote tower' to a 'conventional tower', the training organisation should consider possible training needs, if appropriate, required by the change of operational environment.

In case of a transition from 'single mode of operation' (defined in the EASA 'Guidance Material on remote aerodrome air traffic services' — Issue 3) to 'multiple mode of operation' (defined in the EASA 'Guidance Material on remote aerodrome air traffic services' — Issue 3), the conversion training for air traffic controllers should at least include the items listed in GM4 ATCO.D.060(c).

GM1 ATCO.D.085(b) Conversion training

SAFETY ASSESSMENT

The need for conversion training should be identified in the safety assessment of changes to the functional system. Not all safety assessments necessarily lead to the identification of the need for conversion training.

Conversion training is, however, required in the following, non-exhaustive cases, when the change modifies:

— the way ATCOs operate and use equipment;

— the operations manuals, referred to in point ATM/ANS.OR.B.035 of Regulation (EU) 2017/373, which are used by ATCOs;

— the formal interfaces, referred to in point ATM/ANS.OR.B.005(f) of Regulation (EU) 2017/373, which affect ATCOs.

Care should be taken when training operational staff ahead of the implementation of an operational change, as the behaviours they acquire during this training may not be suitable for the existing functional system.

AMC1 ATCO.D.085(c)(2) Conversion training

EXAMINATION OR ASSESSMENT METHODS

Conversion training should be examined or assessed using the processes described in the unit competence scheme.

GM1 ATCO.D.085(d) Conversion training

NEW UNIT ENDORSEMENT

Conversion training course(s) resulting from a change to the functional system that leads to the issue of a new unit endorsement may be, for example, applicable to:

— the transition from a conventional tower to a remote tower;

— airspace changes introducing modifications to the area of responsibility; or

— the reorganisation of an ATC unit, for example, the move of the approach control service from an airport to an ACC or area control service from an ACC to another ACC.

The conversion training course(s) leading to the issue of a new unit endorsement may be applicable only to air traffic controllers (ATCOs) that already hold the privileges of the rating/rating endorsement to be introduced within the ATC unit concerned.

SECTION 5 – TRAINING OF INSTRUCTORS AND ASSESSORS

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.

GM1 ATCO.D.090(a)(1) Training of practical instructors

TRAINING COURSE SYLLABUS FOR PRACTICAL INSTRUCTORS

The practical instructor syllabus is divided into topics and subtopics. This structure helps to classify the objectives as illustrated in the figure below. The objectives consist of three elements:

(a) 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.

(b) The level, which indicates numerically the taxonomy of the action verb. Action verbs are defined in point (4) of AMC1 ATCO.D.010(a) Composition of initial training.

(c) 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 (topic, subtopic title, etc.). Optional content, written in italics, may be used if considered appropriate.

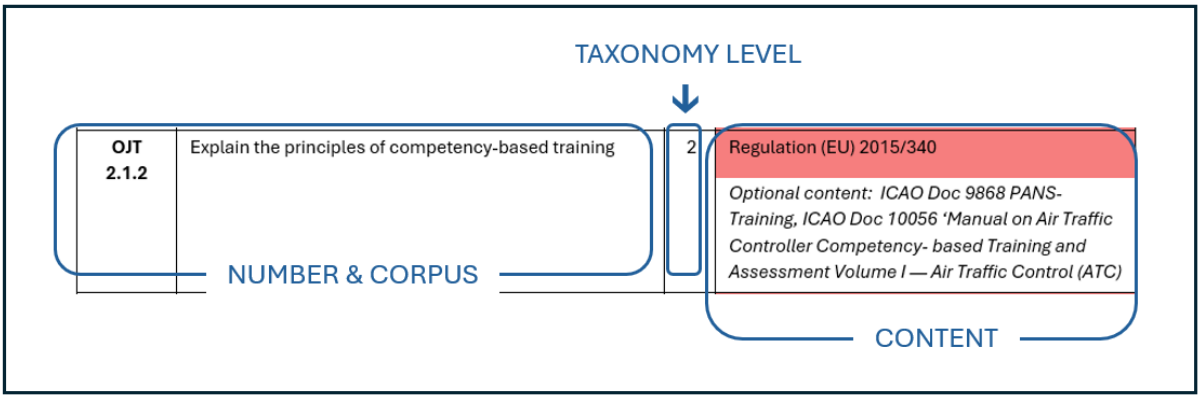


Figure — Illustration of an objective

TOPIC OJT 1 — INTRODUCTION TO THE COURSE			
Subtopic OJT 1.1 — Course content and organisation			
OJT 1.1.1	State the course's objectives, structure and content.	1	
OJT 1.1.2	State the different training methods applied in the course.	1	Theoretical training; practical training; self-study
OJT 1.1.3	State the subjects of the course and their purpose.	1	
OJT 1.1.4	Describe the organisation of the practical training.	2	The roles of the course participants *Optional content: local operating procedures (LOPs), simulator HMI*
Subtopic OJT 1.2 — Training ethos			
OJT 1.2.1	Recognise the feedback mechanisms available.	1	*Optional content: practical instructor discussions, briefing, assessment and evaluation, course debriefing and feedback*
Subtopic OJT 1.3 — The assessment process			
OJT 1.3.1	Describe the course examination and assessment process.	2	
TOPIC OJT 2 — TRAINING ORGANISATION			
Subtopic OJT 2.1 — What is competency?			
OJT 2.1.1	Define competency.	1	Regulation (EU) 2015/340
OJT 2.1.2	Explain the principles of competency-based training.	2	Regulation (EU) 2015/340 *Optional content: ICAO Doc 9868 'PANS — Training', ICAO Doc 10056 'Manual on Air Traffic Controller Competency-based Training and Assessment' Volume I — Air Traffic Control (ATC)*
OJT 2.1.3	Describe the content of an adapted competency model for ATCOs.	2	Regulation (EU) 2015/340 *Optional content: locally adapted competency model*
Subtopic OJT 2.2 — Practical instructors' competency model			
OJT 2.2.1	Describe the competencies of practical instructors.	2	Regulation (EU) 2015/340
OJT 2.2.2	Describe the roles of a practical instructor.	2	OJTI/STDI *Optional content: similarities, differences*
OJT 2.2.3	Appreciate the need for a 'code of conduct'.	3	
Subtopic OJT 2.3 — Structure of ATC training and learning environment			
OJT 2.3.1	List the content and structure of ATCO training.	1	Regulation (EU) 2015/340
OJT 2.3.2	Consider the philosophy of an ATCO training organisation.	2	
OJT 2.3.3	Consider the learner population in your training organisation.	2	*Optional content: ICAO Doc 10056 'Manual on Air Traffic Controller Competency-based Training and Assessment' Volume I — Air Traffic Control (ATC)*
TOPIC OJT 3 — REGULATORY REQUIREMENTS			
Subtopic OJT 3.1 — Practical instructors			
OJT 3.1.1	Differentiate between the ICAO and the European Union requirements for practical instructors.	2	ICAO Annex 1 Regulation (EU) 2015/340

OJT 3.1.2	Describe the European Union regulatory requirements that apply to practical instructors.	2	Regulation (EU) 2015/340
Subtopic OJT 3.2 — Training requirements			
OJT 3.2.1	Explain the structure and types of training provided in an ATC unit.	2	Regulation (EU) 2015/340
OJT 3.2.2	List the content of the unit training plan.	1	Regulation (EU) 2015/340
OJT 3.2.3	List the requirements for practical instructor training.	1	Regulation (EU) 2015/340
TOPIC OJT 4 — HUMAN FACTORS			
Subtopic 4.1 — Learning and motivation			
OJT 4.1.1	Define 'learning'.	1	
OJT 4.1.2	Explain Kolb's experiential learning cycle.	2	
OJT 4.1.3	Explain why individual learning curves can vary.	2	
OJT 4.1.4	Explain the barriers to effective learning.	2	
OJT 4.1.5	Explain the progression of the learner from incompetence to competence.	2	
Subtopic OJT 4.2 — Motivation and attitude			
OJT 4.2.1	Define 'motivation'.	1	
OJT 4.2.2	Recognise the examples of intrinsic and extrinsic motivation.	1	Common motivators for students
OJT 4.2.3	Describe how practical instructors' and/or students' motivation will affect the training outcome.	2	
OJT 4.2.4	List the actions a practical instructor may take to help a student remain motivated.	1	*Optional content: clear objectives, setting an example, positive feedback, threat-free environment*
OJT 4.2.5	Define 'attitude'.	1	
OJT 4.2.6	Use the available competency framework to identify the attitude-related observable behaviours.	3	
OJT 4.2.7	Describe the actions a practical instructor may take to manage counterproductive attitudes during training.	2	
TOPIC OJT 5 — TEAMS			
Subtopic 5.1 — Teams in the ATC environment			
OJT 5.1.1	Explain the term 'team' in the ATC training environment.	2	
OJT 5.1.2	Explain situational awareness in teams.	2	
OJT 5.1.3	Take account of how situational awareness competence can help avoid human-interaction-related problems during training.	2	*Optional content: impact of training on situational awareness*
OJT 5.1.4	Explain how an ATC training unit ensures consistency among practical instructors that assess performance by using the same adapted competency model (ACM).	2	*Optional content: harmonisation exercises/workshops to achieve a high degree of consistency*
TOPIC OJT 6 — COMMUNICATION			
Subtopic OJT 6.1 — Verbal and non-verbal communication			
OJT 6.1.1	Describe the verbal communication process.	2	
OJT 6.1.2	Describe the importance of human senses in the communication process.	2	
OJT 6.1.3	Explain non-verbal communication.	2	

OJT 6.1.4	Recognise how communication styles influence communication.	1	
Subtopic OJT 6.2 — Active listening			
OJT 6.2.1	Explain active listening.	2	
OJT 6.2.2	Consider active-listening techniques.	2	
Subtopic OJT 6.3 — Barriers to communication			
OJT 6.3.1	Explain perception and expectation bias.	2	
OJT 6.3.2	Recognise the barriers to communication relevant to the ATCOs' practical training process.	1	Distraction, distortion, emotion, hidden agenda, age difference *Optional content: noise, mobile phones, language, workload, fatigue, friendship*
OJT 6.3.3	Consider the barriers relevant to the ATCOs' practical training process.	2	
TOPIC OJT 7 — STRESS			
Subtopic OJT 7.1 — Describe stress in general terms.			
OJT 7.1.1	Explain the meaning of stress.	2	
OJT 7.1.2	List the types of stressors with examples.	1	Physical, work, social, personal
OJT 7.1.3	Explain 'stress appraisal'.	2	Initial and secondary appraisal
OJT 7.1.4	Explain stress reaction to different stressors.	2	Challenge, threat, harm/loss and associated reactions
Subtopic OJT 7.2 — Stress in training			
OJT 7.2.1	Identify what could stress a practical instructor / student.	3	
OJT 7.2.2	Recognise the symptoms of stress in a student.	1	Behavioural, physical, emotional, cognitive
OJT 7.2.3	List the effects of stress on training.	1	*Optional content: stress-related regression in performance, perceptual tunnelling, over-simplification of problems*
OJT 7.2.4	Explain ways of preventing and/or managing stress in training.	2	*Optional content:* *For the student: self-confidence, belief that the learning environment is positive, understands training process* *For the practical instructor:* *positive regard for student, honest communication and conscientious behaviour*
TOPIC OJT 8 — STRUCTURED PRACTICAL SESSION — BEFORE THE SESSION			
Subtopic OJT 8.1 — Preparation			
OJT 8.1.1	Verify current level of ability of student controller.	3	Previous training reports, talking to previous practical instructor(s)
OJT 8.1.2	Explain the need for training objectives.	2	Link with the competencies, the structure *Optional content: earlier weaknesses: ensuring that the student understands what is required: performance, competency standard, conditions*
OJT 8.1.3	Choose training objectives.	3	*Optional content: UTP, previous training reports*

OJT 8.1.4	Take account of all the stages of a structured briefing while preparing it.	2	
Subtopic OJT 8.2 — Briefing			
OJT 8.2.1	Recognise the need for a structured briefing.	1	
OJT 8.2.2	Conduct the structured briefing.	3	*Optional content: Preparation and briefing template*
Subtopic OJT 8.3 — Working position handover/takeover			
OJT 8.3.1	Appreciate the need for a complete working position handover and takeover in an OJT situation.	3	*Optional content: both the OJTI and the student need to be involved*
TOPIC OJT 9 — STRUCTURED PRACTICAL SESSION — AT THE WORKING POSITION			
Subtopic OJT 9.1 — Monitoring and note-taking			
OJT 9.1.1	Describe 'monitoring'.	2	
OJT 9.1.2	Appreciate the need to monitor agreed training objectives.	3	Safety elements and the training objectives as a minimum
OJT 9.1.3	Appreciate the need for the practical instructor to provide balanced and appropriate support during monitoring.	3	*Optional content: workload, questioning, stroking, body language*
OJT 9.1.4	Appreciate the difficulties of monitoring at different stages of training.	3	Beginning versus consolidation phase *Optional content: under-reliance/over-reliance in student's ability and capability, loss of concentration, distraction, two mental models*
OJT 9.1.5	Appreciate the value and importance of note-taking.	3	
OJT 9.1.6	List the different techniques of note-taking and the items to be recorded.	1	T-square, timeline and long hand objectives, safety issues, training point, technique evaluation
OJT 9.1.7	Apply the correct monitoring techniques.	3	
Subtopic OJT 9.2 — Introduction to intervention			
OJT 9.2.1	List methods of intervention.	1	Questions, instructions, error corrections, taking over control
OJT 9.2.2	Appreciate the reasons for intervention.	3	Safety, preventing student's overload, urgency, efficiency, etc.
OJT 9.2.3	Appreciate the need to ensure safety and efficiency of the operation during training.	3	
OJT 9.2.4	Apply the appropriate intervention techniques.	3	Questions, instructions, error corrections, taking over control
Subtopic OJT 9.3 — Questions and instructions			
OJT 9.3.1	Explain the reasons for questioning and issuing instructions during the training.	2	Facilitating learning process, preventing errors/safety issues/overload, etc.

OJT 9.3.2	Choose the question that is appropriate to the situation and the time available.	3	
OJT 9.3.3	Apply effective questioning techniques throughout practical training.	3	
OJT 9.3.4	Provide instructions to ensure safety and efficiency of the operation and facilitate training.	3	
Subtopic OJT 9.4 — Error correction			
OJT 9.4.1	Differentiate between the categories of error.	2	Prevent, correct, correction delayed, no correction
OJT 9.4.2	Describe the errors that may be prevented and possible remedy action by the practical instructor.	2	Foreseeable and unpredictable
OJT 9.4.3	Describe the errors that should be corrected immediately and possible remedy action by the practical instructor.	2	Unsafe operating habits and situations
OJT 9.4.4	Describe mistakes whose correction is delayed and possible remedy action by the practical instructor.	2	Mistakes with inefficient solutions or no immediate safety implications
OJT 9.4.5	Describe shortcomings that may be overlooked by the practical instructor for the time being.	2	Lack of experience usually at the start of the training/learning unit
Subtopic OJT 9.5 — Taking over control			
OJT 9.5.1	List the reasons for taking control over from the student.	1	
OJT 9.5.2	List the physical indicators of the possible need to take control.	1	
OJT 9.5.3	Appreciate when to take over and when to return control.	3	*Optional content: take over control*
TOPIC OJT 10 — STRUCTURED PRACTICAL SESSION — MORE OJT TECHNIQUES			
Subtopic OJT 10.1 — Demonstration			
OJT 10.1.1	Define ‘demonstration’.	1	
OJT 10.1.2	Appreciate when to use a demonstration.	3	New training phase or learning unit, unusual or infrequently used procedures/techniques, when student is regressing
Subtopic OJT 10.2 — Student involvement			
OJT 10.2.1	Describe ‘student involvement’.	2	*Optional content: delegation of strip marking, data input, coordination of the transfer of an aircraft to an adjacent sector, etc.*
OJT 10.2.2	Explain the reasons for involvement.	2	*Optional content: to check comprehension, after taking over to ‘ease’ student back into working, to reduce the workload by focusing on a particular task*
OJT 10.2.3	List the benefits of and considerations for involvement.	1	

OJT 10.2.4	Apply the appropriate involvement techniques.	3	*Optional content: questions, delegation of tasks, talk-through, confirmation of awareness and decision-making*
Subtopic OJT 10.3 — Student talk-through			
OJT 10.3.1	Define 'student talk-through'.	1	
OJT 10.3.2	List the benefits of and considerations for student talk-through techniques.	1	
OJT 10.3.3	Differentiate between the two talk-through techniques.	2	Planning actions Exact actions and R/T
TOPIC OJT 11 — STRUCTURED PRACTICAL SESSION — AFTER THE SESSION			
Subtopic OJT 11.1 — Debriefing basics and coping mechanisms			
OJT 11.1.1	List the reasons to debrief.	1	
OJT 11.1.2	Take account of all the stages of a structured debriefing while preparing it.	2	
OJT 11.1.3	Consider the student's performance in relation to agreed training objectives.	2	
OJT 11.1.4	Explain when and where to debrief.	2	
OJT 11.1.5	Differentiate between positive and negative feedback.	2	Impact on student's progress and motivation *Optional content: honest feedback, fact-based feedback*
OJT 11.1.6	Explain how verbal feedback should be given.	2	Timing, content, body language, location
OJT 11.1.7	Define direct and defensive coping.	1	
OJT 11.1.8	Explain the different types of defensive coping in relation to student training.	2	*Optional content: rationalisation and blaming, denial, avoidance*
Subtopic OJT 11.2 — Structured debriefing			
OJT 11.2.1	List the format for a full structured briefing.	2	
OJT 11.2.2	Describe the circumstances where it may be appropriate to conduct an abbreviated debriefing.		*Optional content: end of training period and student ready for assessment*
OJT 11.2.3	List the format for an abbreviated debriefing.	1	
OJT 11.2.4	Conduct a structured debriefing.	*3*	
TOPIC OJT 12 — ASSESSMENTS			
Subtopic OJT 12.1 — Assessments in ATC practical training			
OJT 12.1.1	Explain the need for assessment.	2	
OJT 12.1.2	Differentiate the purposes of formative and summative assessments.	2	

OJT 12.1.3	Appreciate the importance of and methods for ensuring consistency among practical instructors that assess the same performance by using the same adapted competency model.	3	*Optional content: exercises/workshops to achieve a high degree of consistency*
OJT 12.1.4	Evaluate student performance against the relevant competencies to support their learning and monitoring progress.	5	
TOPIC OJT 13 — REPORT WRITING			
Subtopic OJT 13.1 — Purpose and use of reports			
OJT 13.1.1	Explain the purpose and use of reports.	2	Formative and summative reports *Optional content: who uses each of the different types of reports?*
OJT 13.1.2	Appreciate the responsibilities of an OJTI when writing a report.	3	
Subtopic OJT 13.2 — Quality of reports			
OJT 13.2.1	Record information in reports objectively.	3	*Optional content: avoid vague statements, be precise about the nature of any problems, give recommendations, provide evidence for conclusions*
OJT 13.2.2	Explain pitfalls in maintaining objectivity in report writing.	2	
OJT 13.2.3	Extract relevant evidence from monitoring and notes to write honest and factual report on the student's performance.	3	

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.

AMC2 ATCO.D.090(a)(3) Training of practical instructors

METHOD(S) FOR ASSESSING THE COMPETENCE OF PRACTICAL INSTRUCTORS

Training organisations should develop a method, or methods, for assessing practical instructional competencies in both initial and refresher courses.

AMC3 ATCO.D.090(a)(3) Training of practical instructors

REQUIRED COMPETENCIES FOR PRACTICAL INSTRUCTORS

In order to adhere to the principles for competency-based training and assessment for practical instructors and assessors set out in point ATCO.D.087, the assessment should be based, as a minimum, on the following competencies and the associated observable behaviours (OBs).

Competencies for practical instructors and descriptions	**Observable behaviours (OBs)**
1. Situational awareness *Comprehend current operational situation, anticipate future events and the impact of the student's performance on the operation* *(Note: 'Student' should be understood as the person receiving training.)*	OB 1.1. Maintains own situational awareness while instructing
	OB 1.2 Monitors the impact of the student's actions on the traffic situation
	OB 1.3 Monitors the impact of the student's actions on adjacent sectors
	OB 1.4 Monitors the student's actions continuously
2. Safety and efficiency management *Ensure safety and efficiency of the operation during training.*	OB 2.1 Prioritises safety over teaching the students
	OB 2.2 Takes action to ensure that safety is never compromised (e.g. corrects errors, takes over control, mitigates for student cognitive overload, fatigue, acute stress, etc.)
	OB 2.3. Ensures an orderly and efficient flow of traffic including impact on adjacent sectors/units, when applicable
	OB 2.4. Manages own and the student's workload to ensure safe and efficient operations (e.g. sector splitting, increased spacing, adapting instructional techniques)
3. Mentoring *Support the student's integration into the professional environment by mentoring, advising, guiding and creating a positive learning experience.*	OB 3.1 Promotes positive working relationships
	OB 3.2 Encourages a positive approach to learning
	OB 3.3 Encourages the student to self-reflect on strengths and areas for improvement
4. Teaching, instructing and coaching *Provide instruction and facilitate learning in the operational and synthetic training environment.*	OB 4.1 Prepares for the training session and briefs the student prior to taking over the operational position
	OB 4.2 Ensures that goals and associated standards for the session are communicated
	OB 4.3 Ensures that the student understands the operational situation prior to assuming control

Competencies for practical instructors and descriptions	Observable behaviours (OBs)
	OB 4.4 Maintains appropriate seating position and proximity to the student
	OB 4.5 Uses training techniques to enable learning (e.g. talk-aloud problem-solving techniques, demonstration, immediate bad habit correction, student's involvement, questioning techniques)
	OB 4.6 Responds to student behaviours (e.g. stress, fatigue, under-confidence, over-confidence) that may influence learning, when appliable
	OB 4.7 Confirms understanding (e.g. by using questioning techniques) of the student's intended actions and plans and, when appropriate, encourages the student to execute their own decisions
	OB 4.8 Determines correctly when it is necessary to take control from the student, when applicable
	OB 4.9 Ensures that control is taken in a positive manner and the learning process is not compromised, when applicable
	OB 4.10 Provides constructive and balanced feedback in a timely and respectful manner
	OB 4.11 Debriefs the student by discussing both positive actions and areas for improvement

Competencies for practical instructors and descriptions	Observable behaviours (OBs)
5. Communication *Communicate effectively with the student in verbal, non-verbal and written form*	OB 5.1 Listens actively
	OB 5.2 Speaks clearly and accurately in a calm, measured manner
	OB 5.3 Adjusts speech techniques to suit the operational and/or instructional situation (e.g. conveys a sense of urgency, speaks calmly)
	OB 5.4 Adapts the content of communication to the needs of the student (e.g. chooses the most relevant issues, does not overload with too much information)
	OB 5.5 Interacts and asks questions in a way that does not distract the student from current tasks
	OB 5.6 Delivers difficult messages with tact and sensitivity, when applicable
	OB 5.7 Writes evidence-based comprehensive reports on the student's performance, including recommendations for improvement
6. Assessment *Assess the performance of the student for the purposes of enabling learning and monitoring progress.*	OB 6.1 Gathers factual evidence of the student's performance against the objectives and for the relevant competencies
	OB 6.2 Assesses the student's performance against the relevant competencies
	OB 6.3 Analyses poor performance to determine root causes, when applicable
7. Ethics and integrity *Demonstrate openness, respect and fairness towards the student, and consider the consequences when making a decision or taking action.*	OB 7.1 Treats the student respectfully and fairly
	OB 7.2 Answers questions without embellishment or attempt to cover up a lack of knowledge

GM1 ATCO.D.090(a)(3) Training of practical instructors

REQUIRED COMPETENCIES FOR PRACTICAL INSTRUCTORS

Several additional competencies and observable behaviours (OBs) used for the assessment during the training of practical instructors may be relevant to maintaining the competency of practical instructor endorsement holders.

Competencies for practical instructors	Observable behaviours (OBs)
1. Situational awareness	OB 1.5 Monitors the student's behaviour for physical signs of cognitive overload, fatigue or acute stress
2. Safety and efficiency management	
3. Mentoring	OB 3.4 Develops a rapport (positive professional relationship) with the student and provides encouragement and support
	OB 3.5 Demonstrates empathy and understanding, recognising situations when extra support is required
	OB 3.6 Encourages the student to look for positive learning experiences from each training session, even from those that did not go well
	OB 3.7 Encourages the student to extract maximum training value from any feedback, including negative points and to appreciate ownership and responsibility for the training outcome
	OB 3.8 Appreciates ownership and responsibility for the training outcome
	OB 3.9 Encourages the student to ask questions as part of the overall learning experience
	OB 3.10 Helps the student to build and maintain confidence through encouragement and motivation
4. Teaching, instructing and coaching	OB 4.12 Adapts training techniques and style to meet the needs of the student
	OB 4.13 Ensures appropriate timing of teaching opportunities
	OB 4.14 Encourages the student to make decisions appropriate to their level of competency and experience
	OB 4.15 Helps the student to develop strategies for improvement to overcome any gaps in competencies

Competencies for practical instructors	Observable behaviours (OBs)
5. Communication	OB 5.8 Encourages constructive discussion about the student's performance
	OB 5.9 Explains complex situations clearly (e.g. traffic situations, application of procedures, management of emergencies)
	OB 5.10 Explains cognitive strategies clearly (e.g. how to analyse situations, prioritise, select a course of action, distributed attention)
6. Assessment	OB 6.4 Determines remedial actions required to address deficiencies in performance, when applicable
7. Ethics and integrity	OB 7.3 Maintains privacy and confidentiality, when applicable
8. Collaboration	OB 8.1 Gathers relevant information in advance for the purpose of tailoring the training approach and of maximising productivity of the training session (e.g. from the training organisation, human resources department, previous training reports)
	OB 8.2 Coordinates with the student and other parties for the purpose of tailoring the training approach
	OB 8.3 Asks for help when the student needs additional support in training, when required (e.g. from an experienced practical instructor or training team, additional practice on simulator, counselling)
	OB 8.4 Contributes information on the student's progress to the training team
9. Self-evaluation	OB 9.2 Improves performance based on feedback
	OB 9.3 Improves performance through self-evaluation of the effectiveness of actions
	OB 9.4 Maintains self-control in challenging training situations
	OB 9.5 Responds as needed to deal with the demands of challenging training situations
	OB 9.6 Appreciates the need for continuous improvement and refresher training activities

GM2 ATCO.D.090(a)(3) Training of practical instructors

OBSERVABLE BEHAVIOURS (OBs)

All OBs should be demonstrated. If an OB includes the phrase 'when applicable', that behaviour need only be demonstrated if the circumstances require it. In instances where the circumstances do not require that behaviour, they may be marked as 'not applicable'.

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)(1) Training of assessors

ASSESSOR TRAINING COURSE — COURSE SYLLABUS

Assessor training courses include practical assessment and, therefore, require the development of a simulated operational environment within which candidate assessors can demonstrate their competence. To simulate an operational environment, the course may include documentation that describes the local operating procedures (LOPs). LOPs may be modelled on a real operational environment or be fictious. The information contained in the LOPs may also be used to support the development of an evidence guide.

The documentation may also include procedures for preparing for, conducting and debriefing a competent assessment. That documentation effectively 'simulates' the procedures that would be found in a unit training plan (UTP) or unit competence scheme (UCS) in an operational environment. The documentation may also be modelled on an actual UTP or UCS or be fictious. The documentation may be supported by various templates for briefing, debriefing, note-taking, and assessment reporting.

The assessor syllabus is divided into topics and subtopics. This structure helps to classify the objectives as illustrated in the figure below. The objectives consist of three elements:

(a) 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.

(b) The level, which indicates numerically the taxonomy of the action verb. Action verbs are defined in point (4) of AMC1 ATCO.D.010(a) Composition of initial training.

(c) 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 (topic, subtopic title, etc.). Optional content, written in italics, may be used if considered appropriate.

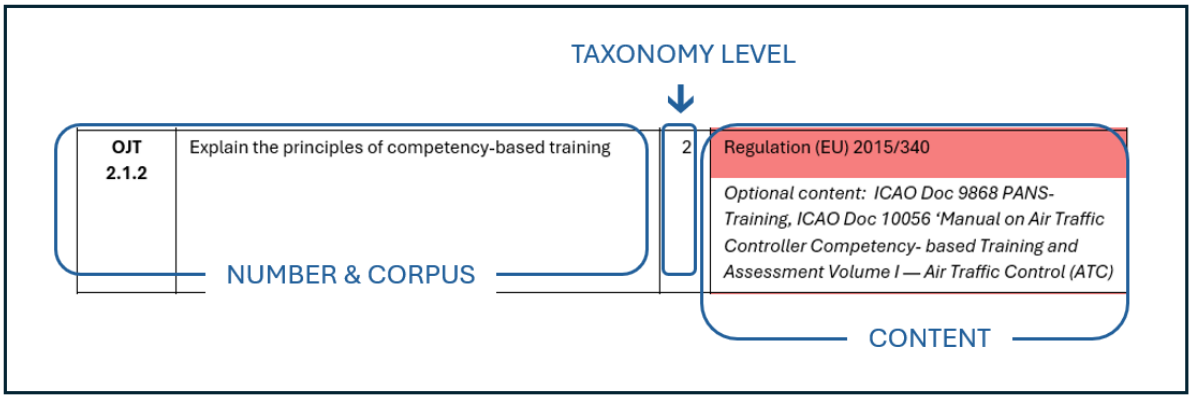


Figure — Illustration of an objective

The following syllabus may be used to develop an assessor training course.

TOPIC ASO 1 — INTRODUCTION			
Subtopic ASO 1.1 — Course content and organisation			
ASO 1.1.1	State the course objective, structure, and content.	1	
ASO 1.1.2	State the different training methods applied in the course.	1	Theoretical training, practical training
ASO 1.1.3	List the subjects of the course and their purpose.	1	
ASO 1.1.4	Explain the organisation of practical training.	2	The roles of the course participants *Optional content: LOP, UCS, simulator HMI*
Subtopic ASO 1.2 — Training ethos			
ASO 1.2.1	Recognise the feedback mechanisms available.	1	*Optional content: classroom discussions, practical instructor feedback, assessment and evaluation, course debriefing and feedback*
Subtopic ASO1.3 — The assessment process			
ASO1.3.1	Describe the course examination and assessment process.	2	
TOPIC ASO 2 — COMPETENCY-BASED TRAINING AND ASSESSMENT (CBTA)			
Subtopic ASO 2.1 — What is competency?			
ASO 2.1.1	Define 'competency'.	1	Regulation (EU) 2015/340
ASO 2.1.2	Explain the principles of CBTA.	2	Regulation (EU) 2015/340
ASO 2.1.3	Explain the purpose of ATCO competency assessment in a competency-based environment.	2	Ensuring competency, maintaining standards, feedback, training process validation
ASO 2.1.4	Explain the adapted competency model and how it is used to evaluate performance.	2	*Optional content: ORCA (Observe, Record, Categorise, Analyse), integrated and separate performance of competencies*
ASO 2.1.5	Explain how to evaluate observable behaviours (OBs) that are concerned with cognitive processes	2	Situational awareness, problem-solving and decision-making

			Optional content: any OB that has a cognitive component
ASO 2.1.6	Describe how to determine normal operating conditions for the conduct of an assessment	2	
Subtopic ASO 2.2 — Regulatory context			
ASO 2.2.1	Describe assessor endorsement requirements, maintenance and privileges.	2	Regulation (EU) 2015/340
ASO 2.2.2	Explain the content of the competency model for assessors.	2	Regulation (EU) 2015/340
ASO 2.2.3	Describe which assessments must be conducted by an assessor.	2	Regulation (EU) 2015/340
ASO 2.2.4	Appreciate the importance of and methods for ensuring consistency among assessors that assess the same performance by using the same adapted competency model.	3	Regulation (EU) 2015/340
Subtopic ASO 2.3 — Communication			
ASO 2.3.1	Describe effective verbal communication.	2	Valid, relevant, unambiguous
ASO 2.3.2	Describe how to deliver difficult messages.	2	Clarity, accuracy *Optional content: calmness, tact, sensitivity*
ASO 2.3.3	Describe how to respond appropriately to the behaviour of the candidate.	2	Stress, reaction to feedback, confrontation *Optional content: setting candidate at ease, appropriate/inappropriate wording during a briefing, conduct during the session*
ASO 2.3.4	Describe how to report and document practical assessment results.	2	Completeness, factual, clarity, evidence for assessment result *Optional content: assessment report templates*
Subtopic ASO 2.4 — Ethics and integrity			
ASO 2.4.1	Explain what it means as an assessor to act ethically and with integrity.	2	Regulation (EU) 2015/340
ASO 2.4.2	Describe the factors which could impact neutrality, impartiality and objectivity of a practical assessment.	2	Honest and factual, prejudice and bias, privacy and confidentiality
ASO 2.4.3	Describe how an assessor self-evaluates their own performance and continuous self-development.	2	Regulation (EU) 2015/340
TOPIC ASO 3 — THE ASSESSMENT			
Subtopic ASO 3.1 — Preparing for the practical assessment			
ASO 3.1.1	Describe the assessment procedure used for this course.	2	UCS or UTP *Optional content: configuration of assessment team*
ASO 3.1.2	Explain safety management during the assessment.	2	Safety controller as assessment team member or not, emergency situations
ASO 3.1.3	Conduct assessment preparation.	3	Validity of own licence, knowledge of current operational practices, requirements for assessment procedure, briefing preparation

ASO 3.1.4	Explain the importance of setting a student at ease prior to assessment.	2	*Optional content: effect of assessment stress on performance*
Subtopic ASO 3.2 — Preparing for the assessment briefing			
ASO 3.2.1	Explain the reason for briefing a candidate.	2	
ASO 3.2.2	Describe the briefing structure, content and procedure.	2	*Optional content: briefing template*
TOPIC ASO 4 — CONDUCTING THE ASSESSMENT			
Subtopic ASO 4.1 — Delivering a briefing			
ASO 4.1.1	Deliver a briefing in accordance with the prescribed requirements.	3	*Optional content: briefing template*
Subtopic ASO 4.2 — Monitoring practical performance			
ASO 4.2.1	Explain how non-verbal communication can impact the performance of the candidate.	2	Body language, physical position, noises
ASO 4.2.2	Explain the purpose of note-taking during a practical assessment.	2	
ASO 4.2.3	Explain what should be recorded during note-taking.	2	Strengths, weaknesses, comprehensive
ASO 4.2.4	Describe note-taking methods.	2	*Optional content: T- Square, Tabular Event, Direct Notes*
ASO 4.2.5	Monitor practical performance continuously and unobtrusively.	4	(Simulated) operational environment
ASO 4.2.6	Record the candidate's performance based on observations.	3	(Simulated) operational environment
ASO 4.2.7	Evaluate whether an assessment is valid.	5	*Optional content: traffic levels, complexity, density, environmental conditions, abnormal and emergency situations, take-over by safety controller*
Subtopic ASO 4.3 — Determining competency			
ASO 4.3.1	Describe how to categorise the recorded observations according to the required competencies.	2	Adapted competency model *Optional content: evidence guide*
ASO 4.3.2	Categorise recorded observations according to the required competencies of the adapted competency model (ACM).	3	Adapted competency model *Optional content: evidence guide*
ASO 4.3.3	Evaluate each separate competency based on categorised evidence.	5	Adapted competency model
ASO 4.3.4	Analyse the integrated performance of all competencies.	4	Adapted competency model
ASO 4.3.5	Determine whether the candidate is competent.	4	Adapted competency model
TOPIC ASO 5 — ASSESSMENT DEBRIEFING			
Subtopic ASO 5.1 — Preparing the debriefing			
ASO 5.1.1	Describe the reasons for debriefing a candidate.	2	Regulation (EU) 2015/340
ASO 5.1.2	Describe the debriefing structure, content and procedure.	2	UCS or UTP *Optional content: debriefing template*

ASO 5.1.3	Collect all information necessary to prepare for a debriefing.	3	Assessment report templates, assessment result *Optional content: assessment team discussions, debriefing template*
Subtopic ASO 5.2 — Conducting the debriefing			
ASO 5.2.1	Explain how to provide factual and objective feedback about the candidate's performance.	2	Use evidence, be factual, avoid generalisations, avoid opinions, avoid assumptions
ASO 5.2.2	Conduct the debriefing, including the provision of an unambiguous assessment conclusion.	3	*Optional content: debriefing template*
Subtopic ASO 5.3 — Documentation of the assessment result			
ASO 5.3.1	Describe how to write complete, factual and clear reports, and how to include the facts relevant for the assessment decision.	2	UCS or UTP, assessment report templates
ASO 5.3.2	Integrate all information in assessment reports in accordance with the prescribed procedures.	4	UCS or UTP, assessment report templates

GM2 ATCO.D.095(a)(1) Training of assessors

ASSESSOR TRAINING COURSE — COURSE SYLLABUS

For units or training organisations that wish to include oral interviews as part of their assessment process, the following learning objectives (LOs) may be included in the assessor syllabus as a subtopic of TOPIC ASO 4 — CONDUCTING THE ASSESSMENT.

TOPIC ASO 4 — CONDUCTING THE ASSESSMENT			
Subtopic ASO 4.5 — Conducting an oral interview			
ASO 4.5.1	Describe the techniques for effective questioning.	2	From easy to difficult Open to closed Non-specific to specific *Optional content: avoid interruptions, arguments, indications of difficulty, indicative facial expressions, generating doubts*
ASO 4.5.2	Explain how to assess the correctness of a candidate's answers.	2	*Optional content: provision of all relevant information, judgement of questions separately, model answers, what level of detail is expected / not expected*
ASO 4.5.3	Appreciate how to develop oral interview questions and answers.	3	*Optional content: local operating procedures*
ASO 4.5.4	Conduct an oral interview.	3	*Optional content: UCS or UTP*
ASO 4.5.5	Appreciate the need for consistency among assessors when evaluating a candidate's answers.	3	*Optional content: level of detail required, need to probe understanding further*
ASO 4.5.6	Evaluate the candidate's answers.	5	

AMC2 ATCO.D.095(a)(3) Training of assessors

REQUIRED COMPETENCIES FOR ASSESSORS

The assessment should be based, as a minimum, on the following competencies and associated observable behaviours (OBs).

Competencies for assessors and descriptions	**Observable behaviours (OBs)**
1. Situational awareness *Comprehends current and future operational situation and the impact of the candidate's performance on the operation.*	OB 1.1 Maintains situational awareness
	OB 1.2 Monitors and analyses continuously the impact of the candidate's actions on the traffic situation
2. Conduct of assessment *Prepares for an assessment, assesses a candidate's performance, decides whether a candidate is competent, and provides objective feedback on their performance.*	OB 2.1 Prepares to conduct the assessment (e.g. candidate information, traffic forecast, weather information, equipment status, etc.)
	OB 2.2 Promotes a positive professional environment with the candidate
	OB 2.3 Conducts the assessment in accordance with the prescribed process (e.g. briefing, safety responsibility, debriefing)
	OB 2.4 Evaluates that the assessment conditions (e.g. traffic levels and complexity) are met to ensure the validity of the assessment, if applicable
	OB 2.5 Acts unobtrusively (e.g. seating position, no distractions, body language, etc.)
	OB 2.6 Observes actions and records evidence in support of determining the candidate's competence
	OB 2.7 Categorises evidence according to the required competencies
	OB 2.8 Assesses the level of performance based on categorised evidence to decide whether a candidate is competent
	OB 2.9. Provides factual and objective feedback about the candidate's performance
	OB 2.10 Informs the candidate about the assessment result clearly and unambiguously
	OB 2.11 Responds appropriately to the behaviour of the candidate (e.g. stress, reaction to feedback)

Competencies for assessors and descriptions	Observable behaviours (OBs)
3. Communication *Communicates effectively: orally, non-verbally, and in writing.*	OB 3.1 Listens actively throughout the assessment process
	OB 3.2 Speaks clearly and accurately in a calm, measured manner
	OB 3.3 Ensures that verbal communication is valid, relevant and unambiguous
	OB 3.4 Delivers difficult messages with tact and sensitivity, when applicable
	OB 3.5 Ensures that reports are complete, factual, and clear, and they include the facts relevant for the assessment decision
4. Ethics and integrity *Demonstrates openness, respect and fairness towards colleagues and the candidate, and considers the consequences of actions.*	OB 4.1 Treats the candidate respectfully, fairly and objectively
	OB 4.2 Answers questions honestly and factually
	OB 4.3 Conducts the assessment without prejudice or bias
	OB 4.4 Manages professional relationships with appropriate role boundaries
	OB 4.5 Ensures privacy and confidentiality (e.g. private location/office for the briefing/debriefing)

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

REQUIRED COMPETENCIES FOR ASSESSORS

Several additional competencies and observable behaviours (OBs) used for the assessment during the training of assessors may be relevant to maintaining the competency of assessor endorsement holders.

Competencies for assessors	Observable behaviours (OBs)
1. Situational awareness	
2. Conduct of assessment	OB 2.12 Applies consistent standards when assessing performance
3. Communication	
4. Ethics and integrity	
5. Safety management	OB 5.1 Prioritises safety over the conduct of the assessment

Competencies for assessors	Observable behaviours (OBs)
	OB 5.2 Identifies situations that have the potential to become unsafe
	OB.5.3 Takes action to prevent an unsafe situation or unsafe situations, when applicable (e.g. if an assessor is responsible for safety and the candidate undergoes the assessment for the issue or renewal of a unit endorsement)
6. Self-evaluation and continuous development	OB 6.1 Appreciates feedback
	OB 6.2 Improves performance based on feedback
	OB 6.3 Improves performance through self-evaluation of the effectiveness of actions
	OB 6.4 Maintains self-control in challenging situations
	OB 6.5 Appreciates the need for continuous improvement and refresher training activities

GM2 ATCO.D.095(a)(3) Training of assessors

OBSERVABLE BEHAVIOURS (OBs)

All OBs should be demonstrated. If an OB includes the phrase 'when applicable', that behaviour need only be demonstrated if the circumstances require it. In instances where the circumstances do not require that behaviour, they may be marked as 'not applicable'.

GM3 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.