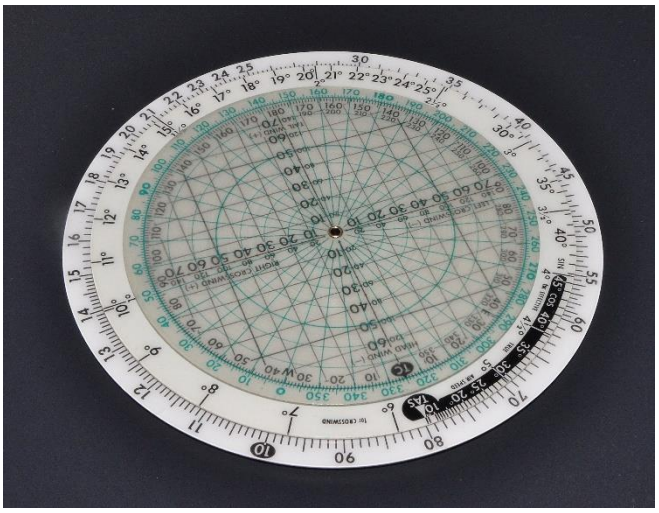
Trafikstyrelsen
Danish Civil Aviation and Railway Authority



Danish Common Core Content

Initial Training

Requirements for composition of FIS training

March 2025

Transportministeriet

Trafikstyrelsen Danish Common Core Content (CCC) for Initial training requirements for composition of FIS training

Contents

1.1 Composition of initial training

a) FIS courses are not regulated by the EU but structure and objectives found in EU regulation (EU) 2015/340 are used to the extent possible.

b) Initial training, regulated by BL6-96, intended for an applicant for a student Flight Information Officer licence, shall consist of:

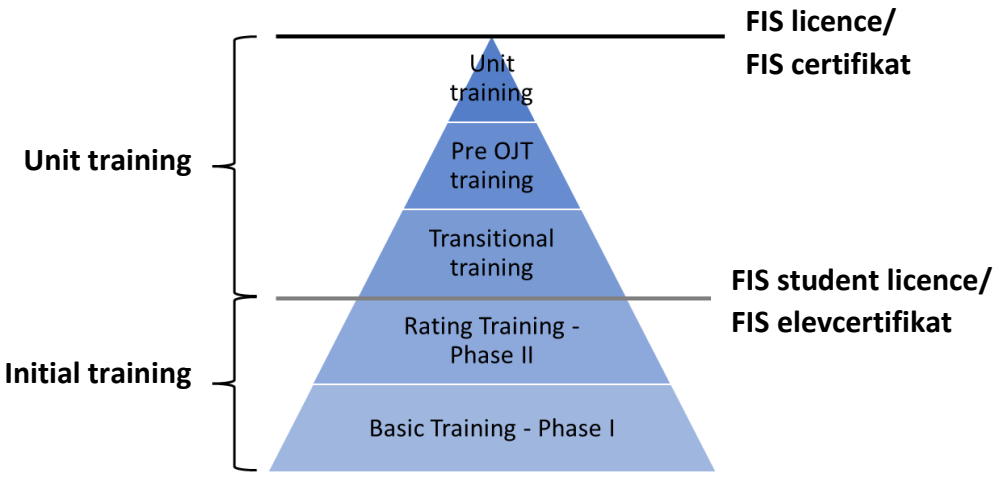
1. Basic training, comprising all the subjects, topics and subtopics contained in:
   - Annex 1 – DK CCC FIS Initial training Phase I, **Basic FIS Module.**

2. Rating training, comprising the subjects, topics and subtopics of at least one of the following:
   - Annex 2 – DK CCC FIS Initial training Phase II, Aerodrome Flight Information Service Instrument Rating – **(AFI) Module 1**.
   - Annex 3 – DK CCC FIS Initial training Phase II, Aerodrome Flight Information Instrument Surveillance endorsement – **(AFI RAD/SUR) Module 1 B**.
   - Annex 4 – DK CCC FIS Initial training Phase II, FIR Flight Information Service Procedural Rating – **(FFP) Module 2.**
   - Annex 5 – DK CCC FIS Initial training Phase II, FIR Flight Information Service Surveillance Rating – **(FFS) Module 3**.

3. Radio operator licence training according to BL 6-08.

c) Training intended for an additional rating shall consist of the subjects, topics, and subtopics applicable to at least one of the ratings established above. If an applicant already holds a student FISO licence or a FISO licence and there is a requirement for training to achieve an additional rating, the applicant should not repeat the basic training objectives, however, there is a requirement to achieve the objectives contained within the relevant rating training.

d) The content of the rating training courses is based on the assumption that the student has successfully completed the Phase I – Basic FIS Training, as a prerequisite. The AFI RAD/SUR endorsement course Module 1 B is based on the assumption that the student has also successfully completed the Phase II, Aerodrome Flight Information Service Instrument Rating – (AFI) – Module 1 as a prerequisite.



1.1.1 Structure of the basic and rating training syllabi

a) The basic and rating training syllabi have been structured as follows:

1) The syllabus is divided into subjects, which are divided into topics that are in turn divided into subtopics. This structure serves the definition and classification of the objectives. There can be one or several objectives linked to each subtopic.
2) Objectives are assigned to a specific subject which deals with the knowledge and skills needed to accomplish the related subject objective.

b) The following principles applies 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.

1.1.2 Structure of the objectives

An objective consists 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 (see 1.1.6).

b) The level, which indicates numerically the taxonomy of the action verb.

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 (syllabus, subject, etc.).

Content that is a required part of the objective is written in the grey-shaded field. Optional content, written in *italics*, may be used if considered appropriate. 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).

d) To the right of each objective, there is an indication of which other ratings contain this particular objective. This indication is the first step to help the training providers identify the potential commonalities between the various syllabi. As a second step, the training provider must determine, at the level of local implementation, whether the objective is to be regarded as repeated or common. In addition, in Annex 1 Basic FIS training a reference to the radio operator licence training is added to describe what objectives are required in the radio operators licence training course.

SUBJECT 1: INTRODUCTION TO THE COURSE

TOPIC INTRB 1 — COURSE MANAGEMENT				Rating	Ref to regulation (EU) 2015/340
Subtopic INTR 1.3 — Study material and training documentation					
BASIC INTRB 1.3.1	Use appropriate documents and their sources for course studies.	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*	ALL	

Topic

Subtopic

Objective reference nr

Objective corpus

Objective level/ Taxonomy

Explicit objective content. Required content in grey, optional content in italics. Explicit content NOT the same (adjusted to FIS training) as the 340 referred objective explicit is marked*

Rating reference (when applicable) *(see 1.1.4, 1.1.5 and 1.6.1)*

Reference to objective no. in Regulation (EU) 2015/340. If Objective corpus has been adapted to FIS training and therefore does NOT correspond fully to the referred objective marked **. If empty objective is DK CCC specific.

1.1.3 Repeated and common objectives

a) 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 service).

1.1.4 Common objectives

a) Common objectives (marked ALL in the appendices) 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.

1.1.5 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.

Level 1 verb	Definition	Example
Define	State what it is and what its limits are; state the definition.	Define FIS service.
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 FISO licensing and oversight of ANSPs.
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.

Level 2 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
Describe	Say what it is like or what happened.	Describe the methods by which ICAO notifies and implements legislation.
Differentiate	Show the differences between things.	Differentiate between different types of visibility.
Explain	Give details about something or describe so that it can be understood.	Explain the purpose and function of ICAO.
Take account of	Take into consideration before 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.

Level 3 verb	Definition	Example
Apply	Use something in a situation or activity.	Apply correct solution.
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).
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.
Collect	Assemble, accumulate, bring or come together.	Collect appropriate information relevant to the situation.
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.
Inform	Tell, give facts or information.	Inform supervisor of situation.
Initiate	Begin, set going, originate.	Initiate appropriate coordination.
Issue	Send forth, publish.	Issue appropriate information concerning the position of conflicting traffic.
Maintain	Cause or enable to continue.	Maintain situational awareness by monitoring traffic.
Monitor	Keep under observation.	Monitor the technical integrity of the FISO working position.
Obtain	Acquire easily without research.	Obtain meteorological information.
Operate	Conduct work on equipment.	Operate the equipment of the working position
Perform	Carry into effect, go through, execute.	Perform communication 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.
Transfer	Hand over.	Transfer information to the relieving FISO
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.

(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.

Level 4 verb	Definition	Example
Allocate	Assign, devote.	Allocate levels according to altimetry data.
Analyse	Examine minutely the constitution of.	Analyse examples of pilot–FISO 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.
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.

Integrate	Combine into a whole, complete by addition of parts.	Integrate appropriate aircraft performance data into information 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 FIS.

(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.

Level 5 verb	Definition	Example
Balance	Weigh (a question, two arguments, etc., against each other).	Balance the workload against personal capacity.
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.
Resolve	Solve, clear up, settle.	Resolve conflict.
Select	Pick out as best or most suitable.	Select the runway in use.

1.1.6 Application of taxonomy levels to practically based objectives

a) 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.

b) Objectives at taxonomy level 3 or higher, for the ATM subject, are practical by nature and require the integration of several knowledge areas and skills at the same time, e.g. providing traffic information to aircraft requires knowledge and skills in the areas of radiotelephony, aircraft performance, navigation and radar theory. Therefore, ATM level 3 objectives included in rating training shall be achieved through the use of a part-task trainer or a simulator. ATM level 3 objectives included in basic training shall be covered by practical classroom exercises or through the use of a part-task trainer or a simulator.

c) ATM level 4 objectives shall 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.

d) ATM level 5 objectives shall be achieved through the use of a simulator.

1.2 Initial training plan

a) An initial training plan shall be established by the training organisation and approved by the Danish competent authority. It shall contain at least:
   1. the composition of the initial training course provided according to Annex 1-5 including references to all applicable objective reference numbers (from Annex 1-5) as to clearly indicate how and where each objective is covered in the training;
   2. the structure of the initial training provided according to 1.1.1;
   3. the process for the conduct of the initial training course(s);
   4. the training methods;
   5. minimum and maximum duration of the initial training course(s);
   6. processes for examinations and assessments, as well as performance objectives;
   7. training personnel qualifications, roles and responsibilities;
   8. process for early termination of training;
   9. the appeal process;
   10. identification of records to be kept specific to initial training;
   11. process and reasons for reviewing and amending the initial training plan and its submission to the competent authority. The review of the initial training plan shall take place at least once every three years.

1.3 Basic training examinations and assessment

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

b) Examinations shall be produced and maintained in a structured manner which shall be described in the Initial Training Plan,

c) Examination items shall cover a selection of questions that reflect the composition of the objectives as well as the attached taxonomy levels.

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

e) An appeal process shall be established for appeal of the results, composition, and structure of the examinations. The appeal process shall be included in the Initial Training Plan.

1.4 Rating training examinations and assessment

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

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

c) Assessment(s) shall be based on the rating training performance objectives described in 1.5.

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

e) A pass in assessment(s) shall be awarded to an applicant who consistently demonstrates the required performance described in 1.5 and shows the behaviour required for safe operations within the flight information service.

1.5 Rating training performance objectives

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

b) Rating training performance objectives shall require an applicant to:
- demonstrate the ability to manage air traffic in a manner that ensures safe, orderly and expeditious services;
- apply procedural or surveillance service, planning techniques and operational procedures applicable to the rating module.

1.6 Radio operator licence - ATS

1.6.1 Radio operator licence training for ATS personnel

a) BL 6-71 specifies a general radio operator licence requirement for issuing a student FISO licence. The ATS radio operator licence course requirements are regulated by national legislation BL 6-08. This DK CCC initial training course shall provide the student with such a radio licence endorsement, with the privileges to communicate with IFR and VFR traffic in Danish and English languages, from air to ground and vice versa.

The training provider shall ensure that practical phraseology training is conducted and assessed in both languages. The requirements consist of theoretical training in the DK CCC Basic module objectives marked “RADIO” and practical simulator training in the relevant rating module.

1.6.2 Radio operator licence

a) The Danish Civil Aviation and Railway Authority will issue the radio licence endorsement, which contains the elements as described in BL 6-08 and covered in the initial basic and rating training. A pass in this examination and language assessment is one of the requirements for the issue of a student flight information service licence.

b) The radio licence, regulated by BL 6-08, satisfies the requirements governed by the International Telecommunications Union as required in Denmark, the Faeroe Islands and Greenland.

1.6.3 Radio operator licence examination and language assessment

a) The radio licence examination shall consist of a theoretical part, included in the initial training examination, and a finalising language assessment. The finalizing language assessment is divided in two: one for the issue of a Danish language (VFR and IFR) and one for the issue of the English language (VFR and IFR) which constitutes the privileges as a general DK radio licence for ATS personnel.

1.7 Specific abbreviations used in this document*

"AFIS" means Aerodrome Flight Information Service. Fight information service provided by an AFISO in the FIZ.

"AFI" is the Danish abbreviation for the Aerodrome Flight Information Service Instrument Rating.

"AFISO" means Aerodrome Flight Information Service Officer. A person providing flight information service at an AFI unit.

"AFI RAD/SUR" is the Danish abbreviation for Aerodrome Flight Information Instrument Surveillance endorsement. The Danish BL regulations use the abbreviation RAD instead of SUR. In the context of this DK CCC, the abbreviation RAD is seen equal to SUR.

"FISO" means Flight Information Service Officer. A person providing flight information service at an AFIS unit or at an enroute unit.

"FIZ" means Flight Information Zone. The airspace connected to an AFIS unit.

"FFS" means FIR Flight Information Service Surveillance. Flight Information Service provided using surveillance derived data to flights in enroute flight by a FISO.

"FFP" means FIR Flight Information Service Procedural. Flight Information Service provided by procedural means to aircraft in enroute flight by a FISO.

**Note: A complete list of abbreviations can be found in Regulation (EU) 2015/340.*

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Annex 1 – DK CCC FIS Initial training Phase I, Basic FIS Module

Phase I – Basic FIS training Module **Basic FIS** provides the Danish Common Core Content CCC Training requirements and objectives for Basic FIS training.

The tabulated format of Phase I training content has been subdivided into subjects:

1. Introduction to the Course (INTRB)
2. Aviation Law (LAWB)
3. Air Traffic Management (ATMB)
4. Meteorology (METB)
5. Navigation (NAVB)
6. Aircraft (ACFTB)
7. Human Factors (HUMB)
8. Equipment and Systems (EQPSB)
9. Professional Environment (PENB)

The order of the subjects and objectives is neither intended to convey a pedagogical sequence nor to indicate a relative level of importance.

Basic FIS training shall as a minimum contain the following subject objectives and training objectives that are associated with the subjects, topics and subtopics:

SUBJECT OBJECTIVES AND TRAINING OBJECTIVES

SUBJECT 1: INTRODUCTION TO THE COURSE

TOPIC INTRB 1 — COURSE MANAGEMENT				Ref to regulation (EU) 2015/340
Subtopic INTR 1.1 — Course introduction				
BASIC INTRB 1.1.1	Explain the aims and main objectives of the course.	2		BASIC INTRB 1.1.1
Subtopic INTR 1.2 — Course administration				
BASIC INTRB 1.2.1	State how the course is administered.	1		BASIC INTRB 1.2.1
Subtopic INTR 1.3 — Study material and training documentation				
BASIC INTRB 1.3.1	Use appropriate documents and their sources for course studies.	3	*Optional content: training documentation, library, CBT library, web, learning management server*	BASIC INTRB 1.3.1
BASIC INTRB 1.3.2	Integrate appropriate information into course studies.	4	Training documentation *Optional content: supplementary information, library*	BASIC INTRB 1.3.2

TOPIC INTRB 2 — INTRODUCTION TO THE TRAINING COURSE				Ref to regulation (EU) 2015/340
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, self-study, types of training events	BASIC INTRB 2.1.1
BASIC INTRB 2.1.2	State the subjects covered by the course and their purpose.	1		BASIC INTRB 2.1.2
BASIC INTRB 2.1.3	Describe the organisation of theoretical training.	2	*Optional content: course programme*	BASIC INTRB 2.1.3
BASIC INTRB 2.1.4	Appreciate appropriate learning techniques.	3	How the influence of interactive techniques can lead to improved learning	BASIC INTRB 2.1.5
Subtopic INTRB 2.2 — Training ethos				
BASIC INTRB 2.2.1	Recognise the feedback mechanisms available	1	*Optional content: training progress, assessment, examinations, results**	BASIC INTRB 2.2.1
BASIC INTRB 2.2.2	Describe the positive effect of working and learning together with course participants.	2	Teamwork in training*	BASIC INTRB 2.2.2
Subtopic INTRB 2.3 — Assessment process				
BASIC INTRB 2.3.1	Describe the assessment process.	2		BASIC INTRB 2.3.1

TOPIC INTRB 3 — INTRODUCTION TO THE FISO'S FUTURE				Ref to regulation (EU) 2015/340
Subtopic INTRB 3.1 — Job prospects				
BASIC INTRB 3.1.1	Recognise an FISO's working environment.	1	Area unit, AFIS unit.*	BASIC INTRB 3.1.1**
BASIC INTRB 3.1.2	Recognise career developments.	1	*Optional content: OJT instructor, assessor, operational managerial posts, non-operational posts**	BASIC INTRB 3.1.2

SUBJECT 2: AVIATION LAW

TOPIC LAWB 1 — INTRODUCTION TO AVIATION LAW				Ref to regulation (EU) 2015/340
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 1.1.1
BASIC LAWB 1.1.2	Describe the impact that key international and national organisations have on ATS and their interaction with each other.	2	ICAO, EASA, EUROCONTROL, national organisations	BASIC LAWB 1.1.2

TOPIC LAWB 2 — INTERNATIONAL ORGANISATIONS				Ref to regulation (EU) 2015/340
Subtopic LAWB 2.1 — ICAO				
BASIC LAWB 2.1.1	Explain the purpose and function of ICAO.	2		BASIC LAWB 2.1.1
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*	BASIC LAWB 2.1.2
Subtopic LAWB 2.2 — European and other agencies				
BASIC LAWB 2.2.1	Explain the purpose and functions of EUROCONTROL.	2	Network Manager function	BASIC LAWB 2.2.1
BASIC LAWB 2.2.2	Explain the purpose and functions of EASA.	2		BASIC LAWB 2.2.2
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*	BASIC LAWB 2.2.3
Subtopic LAWB 2.3 — Aviation associations				
BASIC LAWB 2.3.1	State the purpose of FISO, controller, pilot, airline and airspace user associations and their interaction with ATS.	1	*Optional content: IFATCA, IFALPA, IATA, AEA, IAOPA, IACA, military services, ETF, ATCEUC*	BASIC LAWB 2.3.1**

TOPIC LAWB 3 — NATIONAL ORGANISATIONS				Ref to regulation (EU) 2015/340
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*	BASIC LAWB 3.1.1
BASIC LAWB 3.2.1	Recognise how legislation is implemented, notified and updated.	1		BASIC LAWB 3.2.1
Subtopic LAWB 3.3 — Competent authority				
BASIC LAWB 3.3.1	Name the competent authority responsible for FISO licensing and oversight of ANSPs	1		BASIC LAWB 3.3.1**

TOPIC LAWB 3 — NATIONAL ORGANISATIONS				Ref to regulation (EU) 2015/340
BASIC LAWB 3.3.2	State how the competent authority carries out its safety oversight responsibilities	1		BASIC LAWB 3.3.2
Subtopic LAWB 3.4 — National aviation associations				
BASIC LAWB 3.4.1	State the purpose of national controller, FISO, pilot, airline and airspace user associations.	1		BASIC LAWB 3.4.1**

TOPIC LAWB 4 — ATS SAFETY MANAGEMENT				Ref to regulation (EU) 2015/340
Subtopic LAWB 4.1 — Safety regulation				
BASIC LAWB 4.1.1	Describe the need for safety regulation.	2	Regulation (EU) 2018/1139 *Optional content: Regulation (EU) 2017/373, national regulations*	BASIC LAWB 4.1.1
BASIC LAWB 4.1.2	Describe the general principles of safety regulation.	2	*Optional content: Regulation (EU) 2017/373, national regulations*	BASIC LAWB 4.1.2
BASIC LAWB 4.1.3	Explain the impact of safety regulation on the FISO.	2	*Optional content: Regulation (EU) 2017/373*	BASIC LAWB 4.1.3**
Subtopic LAWB 4.2 — Safety management system				
BASIC LAWB 4.2.1	Explain the regulatory requirements of safety management systems in ATM.	2	Regulation (EU) 2017/373, BL 7-5*	BASIC LAWB 4.2.1
BASIC LAWB 4.2.2	Explain the principles of the safety management systems.	2	Regulation (EU) 2017/373, BL 7-5*	BASIC LAWB 4.2.2
BASIC LAWB 4.2.3	Describe the safety assessment methodology	2	Regulation (EU) 2017/373, BL 7-5* *Optional content: EATMP Air navigation system safety assessment methodology, national regulations*	BASIC LAWB 4.2.3

TOPIC LAWB 5 — RULES AND REGULATIONS				Ref to regulation (EU) 2015/340
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, ICAO Annex 5	BASIC LAWB 5.1.1
Subtopic LAWB 5.2 — FISO licensing/certification				
BASIC LAWB 5.2.1	Explain the FISO licensing/certification process.	2	National processes, national regulation, BL 6-71*	BASIC LAWB 5.2.1**
BASIC LAWB 5.2.2	Explain the privileges and limitations of FISO licences	2	National processes, national regulation, BL 6-71*	BASIC LAWB 5.2.2**

TOPIC LAWB 5 — RULES AND REGULATIONS				Ref to regulation (EU) 2015/340
Subtopic LAWB 5.3 — Overview of ANS				
BASIC LAWB 5.3.1	Differentiate between the Air Navigation Services.	2	Regulation (EU) 2018/1139, Regulation (EC) No 549/2004, BL 7-5*	BASIC LAWB 5.3.1
Subtopic LAWB 5.4 — Overview of ATS				
BASIC LAWB 5.4.1	State the considerations which determine the need for the ATS.	1	Regulation (EU) 2017/373, BL 7-5, BL 7-21*	BASIC LAWB 5.4.1
BASIC LAWB 5.4.2	Differentiate between the ATS.	2	ATCS, ADVS, FIS, ALRS, BL 7-5*	BASIC LAWB 5.4.2
BASIC LAWB 5.4.3	Explain the objectives of ATS.	2	Regulation (EU) No 923/2012, BL 7-5*	BASIC LAWB 5.4.3
Subtopic LAWB 5.5 — Overview of Aeronautical Information Management (AIM)				
BASIC LAWB 5.5.1	Describe the means by which Aeronautical Information is notified, updated and disseminated.	2	Regulation (EU) 2017/373, BL 7-5* *Optional content: AIS, integrated aeronautical information package (AIPs, AIRAC, SUPs, AICs, NOTAMs), ICAO Annex 15*	BASIC LAWB 5.5.1
BASIC LAWB 5.5.2	Recognise the information contained in the different parts of the AIP.	1		BASIC LAWB 5.5.2
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 5.6.1
BASIC LAWB 5.6.2	State the published differences with ICAO.	1	Regulation (EU) No 923/2012, BL-7-1, BL 7-5, AIP GEN 1-6, AIP GEN 1-7* *Optional content: Supplements to ICAO Annex 2 and ICAO Annex 11*	BASIC LAWB 5.6.2
BASIC LAWB 5.6.3	Appreciate the influence of relevant flight rules on ATS.	3	General flight rules, instrument flight rules, visual flight rules	BASIC LAWB 5.6.3**
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, BL 7-1, BL 7-5, BL 7-100*	BASIC LAWB 5.6.4
Subtopic LAWB 5.7 — Airspace and ATS routes				
BASIC LAWB 5.7.1	Explain airspace classification.	2	Regulation (EU) No 923/2012, BL 7-1*	BASIC LAWB 5.7.1
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 5.7.2
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 5.7.3

TOPIC LAWB 5 — RULES AND REGULATIONS				Ref to regulation (EU) 2015/340
BASIC LAWB 5.7.4	Decode information from aeronautical charts.	3		BASIC LAWB 5.7.4
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 5.8.1
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 5.8.2
BASIC LAWB 5.8.3	Explain the pilot's responsibilities in relation to adherence to flight plan.	2	Inadvertent changes, intended changes, position reporting, BL 7-1*	BASIC LAWB 5.8.3
BASIC LAWB 5.8.4	Describe flight plan submission and distribution processes.	2	Regulation (EU) No 923/2012	BASIC LAWB 5.8.4
Subtopic LAWB 5.9 — Aerodromes				
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 5.9.1
BASIC LAWB 5.9.2	Explain the numbering system and orientation of runways.	2	Regulation (EU) No 139/2014	BASIC LAWB 5.9.2
BASIC LAWB 5.9.3	Differentiate between different types of aerodromes.	2	Controlled, uncontrolled *Optional content: military, international, regional*	BASIC LAWB 5.9.3
BASIC LAWB 5.9.4	Describe designated positions in the traffic circuit.	2		BASIC LAWB 5.9.4
BASIC LAWB 5.9.5	List the factors affecting the selection of runway in use.	1	Regulation (EU) no 923/2017, BL 7-5*	BASIC LAWB 5.9.5
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 5.10.1
BASIC LAWB 5.10.2	Describe the types of holding patterns.	2	Published, non-published	BASIC LAWB 5.10.2
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 5.10.3
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.	BASIC LAWB 5.10.4

TOPIC LAWB 5 — RULES AND REGULATIONS				Ref to regulation (EU) 2015/340
Subtopic LAWB 5.11 — Holding procedures for VFR flights				
BASIC LAWB 5.11.1	Describe VFR holding.	2		BASIC LAWB 5.11.1

SUBJECT 3: AIR TRAFFIC MANAGEMENT

TOPIC ATMB 1 — AIR TRAFFIC MANAGEMENT				Ref to regulation (EU) 2015/340
Subtopic ATMB 1.1 — Application of units of measurement				
BASIC ATMB 1.1.1	Apply the units of measurement appropriate to ATM.	3		BASIC ATMB 1.1.1
Subtopic ATMB 1.2 — Air traffic control (ATC) service				
BASIC ATMB 1.2.1	Define ATC service.	1	Regulation (EU) No 923/2012	BASIC ATMB 1.2.1
BASIC ATMB 1.2.2	Explain the division of the ATC service.	2	Regulation (EC) No 549/2004, Regulation (EU) 2017/373, BL 7-5*	BASIC ATMB 1.2.2
BASIC ATMB 1.2.3	Explain the responsibility for the provision of the ATC service.	2	Regulation (EU) 2017/373, BL 7-5*	BASIC ATMB 1.2.3
BASIC ATMB 1.2.4	Differentiate between the different methods of providing ATC services.	2	Aerodrome, surveillance, procedural	BASIC ATMB 1.2.4
Subtopic ATMB 1.3 — Flight information service (FIS)				
BASIC ATMB 1.3.1	Define FIS.	1	Regulation (EU) No 923/2012, BL 7-5*	BASIC ATMB 1.3.1
BASIC ATMB 1.3.2	Describe the scope of the FIS.	2	Regulation (EU) No 923/2012, BL 7-5*	BASIC ATMB 1.3.2
BASIC ATMB 1.3.3	Explain the responsibility for the provision of the FIS.	2	Regulation (EU) No 923/2012, Regulation (EU) 2017/373	BASIC ATMB 1.3.3
BASIC ATMB 1.3.4	State the methods of transmitting information.	1	RTF, data link, ATIS, VOLMET	BASIC ATMB 1.3.4
BASIC ATMB 1.3.5	List the content of ATIS and VOLMET.	1	Regulation (EU) No 923/2012, Regulation (EU) 2017/373, BL 7-5* *Optional content: meteorological data obtained by data link, ICAO Annex 3*	BASIC ATMB 1.3.5
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.*	BASIC ATMB 1.3.6
Subtopic ATMB 1.4 — Alerting service				
BASIC ATMB 1.4.1	Define ALRS.	1	Regulation (EU) No 923/2012, BL 7-5*	BASIC ATMB 1.4.1
BASIC ATMB 1.4.2	Describe the scope of the ALRS.	2	Regulation (EU) No 923/2012, ICAO Annex 11, BL 7-5*	BASIC ATMB 1.4.2

TOPIC ATMB 1 — AIR TRAFFIC MANAGEMENT				Ref to regulation (EU) 2015/340
BASIC ATMB 1.4.3	Explain the responsibility for the provision of the ALRS.	2	Regulation (EU) 2017/373, Regulation (EU) No 923/2012	BASIC ATMB 1.4.3
BASIC ATMB 1.4.4	Differentiate between the phases of emergency.	2	Uncertainty, alert, distress, BL 7-5*	BASIC ATMB 1.4.4
BASIC ATMB 1.4.5	Describe the organisation of an ALRS.	2	Responsibilities, local organisation	BASIC ATMB 1.4.5
BASIC ATMB 1.4.6	Describe the cooperation between units providing the alerting services and the SAR units.	2		BASIC ATMB 1.4.6
BASIC ATMB 1.4.7	Differentiate between distress and urgency signals.	2	Mayday, Pan Pan, Pan Pan Medical *Optional content: visual signals, etc*	BASIC ATMB 1.4.7
Subtopic ATMB 1.5 — Air traffic advisory service				
BASIC ATMB 1.5.1	Define air traffic advisory service.	1	Regulation (EU) No 923/2012, BL 7-5*	BASIC ATMB 1.5.1
BASIC ATMB 1.5.2	State the scope of the air traffic advisory service.	1	Regulation (EU) No 923/2012, Regulation (EU) 2017/373, BL 7-5*	BASIC ATMB 1.5.2
BASIC ATMB 1.5.3	Explain the responsibility for the provision of the air traffic advisory service.	2	Regulation (EU) No 923/2012, Regulation (EU) 2017/373	BASIC ATMB 1.5.3
Subtopic ATMB 1.6 — ATS system capacity and air traffic flow management				
BASIC ATMB 1.6.1	Define ATFM.	1	Regulation (EC) No 549/2004	BASIC ATMB 1.6.1
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 User's Manual	BASIC ATMB 1.6.2
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 User's Manual	BASIC ATMB 1.6.3
BASIC ATMB 1.6.4	List the methods of providing ATFCM.	1	Regulation (EU) No 255/2010, Regulation (EU) 2019/123, ICAO Doc 4444, EUROCONTROL ATFCM User's Manual	BASIC ATMB 1.6.4
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*	BASIC ATMB 1.7.1
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 1.7.2

TOPIC ATMB 1 — AIR TRAFFIC MANAGEMENT				Ref to regulation (EU) 2015/340
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 1.7.3
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*	BASIC ATMB 1.7.4

TOPIC ATMB 2 — ALTIMETRY AND LEVEL ALLOCATION				Ref to regulation (EU) 2015/340
Subtopic ATMB 2.1 — Altimetry				
BASIC ATMB 2.1.1	Appreciate the relationship between height, altitude and flight level.	3	QFE, QNH, standard pressure	BASIC ATMB 2.1.1
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, BL 7-5* *Optional content: ICAO Doc 8168*	BASIC ATMB 2.2.1
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*	BASIC ATMB 2.2.2
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 2.3.1
BASIC ATMB 2.3.2	Choose the appropriate levels.	3	Flight levels, altitudes, heights	BASIC ATMB 2.3.2

TOPIC ATMB 3 — RADIOTELEPHONY (RTF)				Rating	Ref to regulation (EU) 2015/340*
Subtopic ATMB 3.1 — RTF general operating procedures					
BASIC ATMB 3.1.1	Explain the need for approved phraseology.	2		RADIO	BASIC ATMB 3.1.1
BASIC ATMB 3.1.2	Use approved phraseology.	3	Regulation (EU) No 923/2012, BL 7-1, BL 7-5, BL 7-14* *Optional content: national documents*	RADIO	BASIC ATMB 3.1.2
BASIC ATMB 3.1.3	Perform communication effectively.	3	Regulation (EU) No 923/2012, communication techniques, readback/verification of readback	RADIO	BASIC ATMB 3.1.3

TOPIC ATMB 4 — ATC CLEARANCES AND ATC INSTRUCTIONS				Ref to regulation (EU) 2015/340
Subtopic ATMB 4.1 — Type and content of ATC clearances				
BASIC ATMB 4.1.1	Define ATC clearance.	1	Regulation (EU) No 923/2012, BL 7-1, BL 7-5*	BASIC ATMB 4.1.1
BASIC ATMB 4.1.2	Describe the contents of an ATC clearance.	2	Regulation (EU) No 923/2012, ICAO Doc 4444, BL 7-1, BL 7-5*	BASIC ATMB 4.1.2
BASIC ATMB 4.1.3	Relay appropriate ATC clearances.	3	Regulation (EU) No 923/2012, regulation (EU) 2017/373 *Optional content: ICAO Doc 4444, national documents*	BASIC ATMB 4.1.3**
Subtopic ATMB 4.2 — ATC instructions				
BASIC ATMB 4.2.1	Define ATC Instructions.	1	Regulation (EU) No 923/2012, BL 7-1, BL 7-5*	BASIC ATMB 4.2.1
BASIC ATMB 4.2.2	Describe the contents of an ATC instruction.	2	Regulation (EU) No 923/2012, ICAO Doc 4444, BL-7-1, BL 7-5*	BASIC ATMB 4.2.2
BASIC ATMB 4.2.3	Relay appropriate ATC instructions.	3	Regulation (EU) No 923/2012, Regulation (EU) 2017/373, *Optional content: ICAO Doc 4444, national documents*	BASIC ATMB 4.2.3**

TOPIC ATMB 5 — COORDINATION				Ref to regulation (EU) 2015/340
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*	BASIC ATMB 5.1.1
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 5.2.1
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 5.3.1

TOPIC ATMB 6 — DATA DISPLAY				Ref to regulation (EU) 2015/340
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 6.1.1

TOPIC ATMB 6 — DATA DISPLAY				Ref to regulation (EU) 2015/340
BASIC ATMB 6.1.2	Recognise how pertinent data from relevant sources are used to produce a flight progress display.	1	Pilot reports, coordination, data exchange *Optional content: flight plan*	BASIC ATMB 6.1.2**
BASIC ATMB 6.1.3	Encode and decode flight plans (including supplementary information).	3	ICAO format, AFTN format	BASIC ATMB 6.1.3
Subtopic ATMB 6.2 — Data management				
BASIC ATMB 6.2.1	Recognise how and why data displays are updated.	1	*Optional content: strip marking symbols, strip movement procedures, electronic data, label*	BASIC ATMB 6.2.1**

TOPIC ATMB 7 — SEPARATIONS				Ref to regulation (EU) 2015/340
Subtopic ATMB 7.1 — Separation procedures				
BASIC ATMB 7.1.1	Recognise separation methods used by ATC.	1	*Optional content: visual separation, aerodrome separation, separations based on ATS surveillance systems, wake turbulence separation.*	
BASIC ATMB 7.1.2	Appreciate how ATC separations impact the flight information service and the cooperation between the flight information service and ATC.	3		

TOPIC ATMB 8 — AIRBORNE AND GROUND-BASED SAFETY NETS				Ref to regulation (EU) 2015/340
Subtopic ATMB 8.1 — Airborne safety nets				
BASIC ATMB 8.1.1	State the European Union and National requirement for carriage of airborne collision avoidance system.	1	Regulation (EU) No 1332/2011	BASIC ATMB 8.1.1
BASIC ATMB 8.1.2	Explain the main characteristics of airborne safety nets and their relevance to FIS operations.	2	ACAS, TAWS *Optional content: TCAS, EGPWS, wind shear alerts*	BASIC ATMB 8.1.2**
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 8.1.3
BASIC ATMB 8.1.4	List the actions of the pilot in case of TA and RA.	1	Regulation (EU) No 923/2012	BASIC ATMB 8.1.4
BASIC ATMB 8.1.5	List the ACAS limitations.	1	ICAO Doc 9863 *Optional content: Skybrary Safety Nets*	BASIC ATMB 8.1.5
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 and FIS operations.	2	*Optional content: STCA, MSAW, APW, APM, Skybrary Safety Nets*	BASIC ATMB 8.2.1**

SUBJECT 4: METEOROLOGY

TOPIC METB 1 — INTRODUCTION TO METEOROLOGY				Ref to regulation (EU) 2015/340
Subtopic METB 1.1 — Application of units of measurement				
BASIC METB 1.1.1	Apply the units of measurement appropriate to meteorology.	3		BASIC METB 1.1.1
Subtopic METB 1.2 — Aviation and meteorology				
BASIC METB 1.2.1	Recognise the relevance of meteorology in aviation.	1		BASIC METB 1.2.1
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, BL 7-5* *Optional content: ICAO Annex 3, ICAO Annex 11*	BASIC METB 1.2.2
BASIC METB 1.2.3	State the meteorological hazards to aviation.	1	Turbulence, thunderstorms, icing, microbursts, squall, macro burst, wind shear, volcanic ash	BASIC METB 1.2.3
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 1.3.1
BASIC METB 1.3.2	State the international and national standards for coordination between ATS and MET services.	1	BL 7-5, BL 7-6*	BASIC METB 1.3.2

TOPIC METB 2 — ATMOSPHERE				Ref to regulation (EU) 2015/340
Subtopic METB 1.1 — Application of units of measurement				
BASIC METB 2.1.1	State the composition and structure of the atmosphere.	1	Gases, layers	BASIC METB 2.1.1
BASIC METB 2.1.2	Describe the basic characteristics of the atmospheric parameters measured.	2	Temperature, pressure, wind, humidity, density	BASIC METB 2.1.2
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*	BASIC METB 2.1.3
Subtopic METB 2.2 — Standard atmosphere				
BASIC METB 2.2.1	Describe the elements of the ISA.	2	Temperature, pressure, density	BASIC METB 2.2.1
BASIC METB 2.2.2	State the reasons why the ISA has been defined.	1		BASIC METB 2.2.2

TOPIC METB 2 — ATMOSPHERE				Ref to regulation (EU) 2015/340
Subtopic METB 2.3 — Heat and temperature				
BASIC METB 2.3.1	Define the processes by which heat is transferred and how the atmosphere is heated.	1	Radiation, convection, advection, conduction, water cycle	BASIC METB 2.3.1
BASIC METB 2.3.2	Describe how temperature varies.	2	Adiabatic processes, lapse rates, stability, instability	BASIC METB 2.3.2
BASIC METB 2.3.3	State the influencing factors on surface temperature.	1		BASIC METB 2.3.3
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 2.4.1
BASIC METB 2.4.2	Characterise relative humidity, dew point and latent heat.	2		BASIC METB 2.4.2
Subtopic METB 2.5 — Air pressure				
BASIC METB 2.5.1	Describe the relationship between pressure, temperature, density and height.	2		BASIC METB 2.5.1
BASIC METB 2.5.2	Explain the relationship between pressure settings.	2	QFE, QNH, standard pressure	BASIC METB 2.5.2
BASIC METB 2.5.3	Explain the effect of air pressure and temperature on altimeter readings and the true altitude of aircraft.	2		BASIC METB 2.5.3

TOPIC METB 3 — ATMOSPHERIC CIRCULATION				Ref to regulation (EU) 2015/340
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*	BASIC METB 3.1.1
Subtopic METB 3.2 — Air masses and frontal systems				
BASIC METB 3.2.1	State typical air masses relevant to European and local (regional) weather.	1	*Optional content: Polar, arctic, tropical, equatorial (maritime and continental)*	BASIC METB 3.2.1
BASIC METB 3.2.2	Recognise the main isobaric features.	1	*Optional content: Cyclones, anticyclones*	BASIC METB 3.2.2
BASIC METB 3.2.3	Describe the difference between various fronts and the associated weather.	2	Warm front, cold front, occluded front	BASIC METB 3.2.3
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 3.3.1

TOPIC METB 3 — ATMOSPHERIC CIRCULATION				Ref to regulation (EU) 2015/340
BASIC METB 3.3.2	Explain the relevance of mesoscale systems to aviation.	2		BASIC METB 3.3.2
Subtopic METB 3.4 — Wind				
BASIC METB 3.4.1	Explain the significance of wind phenomena and types.	2	*Optional content: veering, backing, gusting, jet streams, land/sea breezes, Föhn, surface, upper*	BASIC METB 3.3.1
BASIC METB 3.4.2	State the means by which wind is measured.	1	Anemometer, windsock *Optional content: wind sensor, Beaufort scale, etc.*	BASIC METB 3.3.2
BASIC METB 3.4.3	Explain the effect of forces which influence wind.	2		BASIC METB 3.4.3

TOPIC METB 4 — METEOROLOGICAL PHENOMENA				Ref to regulation (EU) 2015/340
Subtopic METB 4.1 — Clouds				
BASIC METB 4.1.1	Explain the different conditions for the formation of clouds.	2		BASIC METB 4.1.1
BASIC METB 4.1.2	State the different cloud types and their main characteristics.	1		BASIC METB 4.1.2
BASIC METB 4.1.3	State how the cloud base and the amount of cloud are measured and/or observed.	1		BASIC METB 4.1.3
BASIC METB 4.1.4	Define cloud base and ceiling.	1		BASIC METB 4.1.4
BASIC METB 4.1.5	Differentiate between cloud base and ceiling.	2		BASIC METB 4.1.5
Subtopic METB 4.2 — Types of precipitation				
BASIC METB 4.2.1	Explain the significance of precipitation in aviation.	2		BASIC METB 4.2.1
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*	BASIC METB 4.2.2
Subtopic METB 4.3 — Visibility				
BASIC METB 4.3.1	Explain the causes of atmospheric obscurity.	2		BASIC METB 4.3.1
BASIC METB 4.3.2	Differentiate between different types of visibility.	2	Horizontal visibility, slant visibility, prevailing visibility, RVR	BASIC METB 4.3.2
BASIC METB 4.3.3	State the means by which visibility is measured.	1		BASIC METB 4.3.3

TOPIC METB 4 — METEOROLOGICAL PHENOMENA				Ref to regulation (EU) 2015/340
BASIC METB 4.3.4	Explain the significance of visibility in aviation.	2		BASIC METB 4.3.4
Subtopic METB 4.4 — Meteorological hazards				
BASIC METB 4.4.1	Explain the meteorological hazards to aviation.	2	Turbulence, icing, microbursts, macro burst, wind shear, thunderstorms, volcanic ash *Optional content: squall*	BASIC METB 4.4.1
BASIC METB 4.4.2	Describe the effect of meteorological hazards on aviation.	2		BASIC METB 4.4.2

TOPIC METB 5 — METEOROLOGICAL INFORMATION FOR AVIATION				Ref to regulation (EU) 2015/340
Subtopic METB 5.1 — Messages and reports				
BASIC METB 5.1.1	Decode the content of weather reports and forecasts.	3	Regulation (EU) 2017/373**,** BL 7-5* METAR, SPECI, TAF, SIGMET *Optional content: local reports*	BASIC METB 5.1.1

SUBJECT 5: NAVIGATION

TOPIC NAVB 1 — INTRODUCTION TO NAVIGATION				Ref to regulation (EU) 2015/340
Subtopic NAVB 1.1 — Application of units of measurement				
BASIC NAVB 1.1.1	Apply the units of measurement appropriate to navigation.	3		BASIC NAVB 1.1.1
Subtopic NAVB 1.2 — Purpose and use of navigation				
BASIC NAVB 1.2.1	Explain the need for navigation in aviation.	2		BASIC NAVB 1.2.1
BASIC NAVB 1.2.2	Characterise navigation methods.	2	*Optional content: historical overview, celestial, on-board, radio, satellites*	BASIC NAVB 1.2.2

TOPIC NAVB 2 — THE EARTH				Ref to regulation (EU) 2015/340
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, evolution in space, seasons, day, night, twilight, units of time, time zones, UTC	BASIC NAVB 2.1.1
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 2.2.1
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 2.2.2
BASIC NAVB 2.2.3	Estimate position on the Earth's surface	3	Latitude/longitude	BASIC NAVB 2.2.3
BASIC NAVB 2.2.4	State the reference system used in aviation.	1	WGS 84 *Optional content: impact of alternative reference models*	BASIC NAVB 2.2.4
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 2.3.1
BASIC NAVB 2.3.2	Calculate conversions between the three north designations.	3	True North, magnetic North, compass North	BASIC NAVB 2.3.2

TOPIC NAVB 3 — MAPS AND AERONAUTICAL CHARTS				Ref to regulation (EU) 2015/340
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 3.1.1

TOPIC NAVB 3 — MAPS AND AERONAUTICAL CHARTS				Ref to regulation (EU) 2015/340
BASIC NAVB 3.1.2	State the specific use of various maps and charts.	1		BASIC NAVB 3.1.2
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*	BASIC NAVB 3.1.3

TOPIC NAVB 4 — NAVIGATIONAL BASICS				Ref to regulation (EU) 2015/340
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*	BASIC NAVB 4.1.1
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 4.2.1
BASIC NAVB 4.2.2	Appreciate the use of various speeds in ATS.	3		BASIC NAVB 4.2.2**
Subtopic NAVB 4.3 — Visual navigation				
BASIC NAVB 4.3.1	Describe visual navigation.	2	Map reading, visual reference	BASIC NAVB 4.3.1
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*	BASIC NAVB 4.3.2
Subtopic NAVB 4.4 — Navigational aspects of flight planning				
BASIC NAVB 4.4.1	Describe the navigational aspects affecting flight planning.	2	*Optional content: fuel/time calculations, min altitudes, alternative routes, weather conditions, ICAO Flight Plan (Item 18 use)*	BASIC NAVB 4.4.1

TOPIC NAVB 5 — INSTRUMENT NAVIGATION				Ref to regulation (EU) 2015/340
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 5.1.1
BASIC NAVB 5.1.2	State the use of ground-based systems.	1	VOR, DME, ILS *Optional content: VDF, NDB, TACAN*	BASIC NAVB 5.1.2

TOPIC NAVB 5 — INSTRUMENT NAVIGATION				Ref to regulation (EU) 2015/340
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 5.1.3
BASIC NAVB 5.1.4	Explain the accuracy and limitations of ground-based systems.	2	VDF, NDB, VOR, DME, ILS *Optional content: TACAN*	BASIC NAVB 5.1.4
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 5.2.1
BASIC NAVB 5.2.2	State the use of on-board systems.	1		BASIC NAVB 5.2.2
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 5.3.1
BASIC NAVB 5.3.2	State the basic principles of GNSS concept.	1	Basic, ABAS, SBAS, GBAS *Optional content: core constellations, MCMF, integrity, RAIM, accuracy improvement, geometric altitude accuracy*	BASIC NAVB 5.3.2
BASIC NAVB 5.3.3	Explain the limitations of satellite-based systems.	2	GPS, Galileo *Optional content: GLONASS, Beidou, integrity, GPS NOTAMs*	BASIC NAVB 5.3.3
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 5.4.1
BASIC NAVB 5.4.2	Differentiate between precision approach and non-precision approach procedures.	2	*Optional content: 2D/3D operations*	BASIC NAVB 5.4.2
BASIC NAVB 5.4.3	Recognise the different minima used during an instrument approach.	1		BASIC NAVB 5.4.3
BASIC NAVB 5.4.4	Define the terms appropriate to instrument approach minima.	1	OCA/OCH, MDA/MDH and DA/DH	BASIC NAVB 5.4.4
BASIC NAVB 5.4.5	List the instrument approach fixes.	1	IAF, IF, FAF, FAP, MAPt	BASIC NAVB 5.4.5

TOPIC NAVB 6 — PERFORMANCE-BASED NAVIGATION				Ref to regulation (EU) 2015/340
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 6.1.1
BASIC NAVB 6.1.2	State the benefits of area navigation.	1	*Optional content: ICAO Doc 9613*	BASIC NAVB 6.1.2
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 6.1.3
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 6.1.4
BASIC NAVB 6.1.5	Characterise the navigational functions of FMS.	2	*Optional content: VNAV, LNAV*	BASIC NAVB 6.1.5
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 6.2.1
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 6.2.2
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 6.2.3
BASIC NAVB 6.2.4	State the benefits of 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 6.2.4
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*	BASIC NAVB 6.2.5
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) (AF #1, AF #3), PBN (Regulation (EU) 2018/1048)*	BASIC NAVB 6.3.1

TOPIC NAVB 7 — DEVELOPMENTS IN NAVIGATION				Ref to regulation (EU) 2015/340
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*	BASIC NAVB 7.1.1

SUBJECT 6: AIRCRAFT

TOPIC ACFTB 1 — INTRODUCTION TO AIRCRAFT				Ref to regulation (EU) 2015/340
Subtopic ACFTB 1.1 — Application of units of measurement				
BASIC ACFTB 1.1.1	Apply the units of measurement appropriate to aircraft and principles of flight.	3		BASIC ACFTB 1.1.1
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		BASIC ACFTB 1.2.1

TOPIC ACFTB 2 — PRINCIPLES OF FLIGHT				Ref to regulation (EU) 2015/340
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 2.1.1
BASIC ACFTB 2.1.2	Explain causes and effects of wake turbulence.	2	Induced drag	BASIC ACFTB 2.1.2
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 2.2.1
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 2.2.2
BASIC ACFTB 2.2.3	Explain the factors affecting aircraft stability.	2		BASIC ACFTB 2.2.3
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 2.2.4
BASIC ACFTB 2.2.5	Explain aircraft lights and their functions.	2	Regulation (EU) No 923/2012, ICAO Annex 6, BL-7-1* *Optional content: Position lights, anti-collision lights, taxi light, navigation lights, stroboscopic lights, landing lights*	BASIC ACFTB 2.2.5
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	BASIC ACFTB 2.3.1

TOPIC ACFTB 3 — AIRCRAFT CATEGORIES				Ref to regulation (EU) 2015/340
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	BASIC ACFTB 3.1.1
Subtopic ACFTB 3.2 — Wake turbulence categories				
BASIC ACFTB 3.2.1	List the wake turbulence categories.	1	Regulation (EU) 2017/373	BASIC ACFTB 3.2.1
Subtopic ACFTB 3.3 — ICAO approach categories				
BASIC ACFTB 3.3.1	List the ICAO approach categories.	1	ICAO Doc 8168	BASIC ACFTB 3.3.1
Subtopic ACFTB 3.4 — Environmental categories				
BASIC ACFTB 3.4.1	List ICAO noise classification.	1	ICAO Annex 16 *Optional content: https://www.easa.europa.eu /eaer/topics/technology-and-design/aircraft-noise*	BASIC ACFTB 3.4.1

TOPIC ACFTB 4 — AIRCRAFT DATA				Ref to regulation (EU) 2015/340
Subtopic ACFTB 4.1 — Recognition				
BASIC ACFTB 4.1.1	Recognise the most commonly used aircraft.	1		BASIC ACFTB 4.1.1
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 4.2.1
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	BASIC ACFTB 4.2.2

TOPIC ACFTB 5 — AIRCRAFT ENGINES				Ref to regulation (EU) 2015/340
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	BASIC ACFTB 5.1.1
Subtopic ACFTB 5.2 — Performance data				
BASIC ACFTB 5.2.1	Explain the operating principles, advantages and disadvantages of the jet engine.	2		BASIC ACFTB 5.2.1
BASIC ACFTB 5.2.2	List the different types of jet engines.	1		BASIC ACFTB 5.2.2
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		BASIC ACFTB 5.3.1

TOPIC ACFTB 5 — AIRCRAFT ENGINES				Ref to regulation (EU) 2015/340
Subtopic ACFTB 5.4 — Electric engines				
BASIC ACFTB 5.4.1	Explain the operating principles, advantages and disadvantages of the electric engine	2		BASIC ACFTB 5.4.1
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 of aircraft. *Optional content: hydrogen cell*	BASIC ACFTB 5.5.1

TOPIC ACFTB 6 — AIRCRAFT SYSTEMS AND INSTRUMENTS				Ref to regulation (EU) 2015/340
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 6.1.1
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*	BASIC ACFTB 6.1.2
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*	BASIC ACFTB 6.2.1
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*	BASIC ACFTB 6.3.1
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 6.4.1
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 6.4.2

TOPIC ACFTB 6 — AIRCRAFT SYSTEMS AND INSTRUMENTS				Ref to regulation (EU) 2015/340
BASIC ACFTB 6.4.3	Explain common aircraft elements and their functions.	2	Aircraft cabin, flight deck, galley, doors, cargo compartments	BASIC ACFTB 6.4.3

TOPIC ACFTB 7 — FACTORS AFFECTING AIRCRAFT PERFORMANCE				Ref to regulation (EU) 2015/340
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	BASIC ACFTB 7.1.1
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	BASIC ACFTB 7.2.1
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	BASIC ACFTB 7.3.1
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 7.4.1
BASIC ACFTB 7.4.2	Explain the factors affecting an aircraft in a holding pattern.	2	Speed, level, turbulence, icing	BASIC ACFTB 7.4.2
BASIC ACFTB 7.4.3	Explain the benefits of continuous descent operations.	2		BASIC ACFTB 7.4.3
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	BASIC ACFTB 7.5.1
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)	BASIC ACFTB 7.6.1
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*	BASIC ACFTB 7.7.1

SUBJECT 7: HUMAN FACTORS

TOPIC HUMB 1 — INTRODUCTION TO HUMAN PERFORMANCE				Ref to regulation (EU) 2015/340
Subtopic HUMB 1.1 — Relevance of human factors for ATS				
BASIC HUMB 1.1.1	Define human factors.	1		BASIC HUMB 1.1.1
BASIC HUMB 1.1.2	Define human performance.	1		BASIC HUMB 1.1.2
BASIC HUMB 1.1.3	Explain the relevance of human factors in ATM.	2	Historical background, safety impact on ATM, licensing requirements, incidents	BASIC HUMB 1.1.3
BASIC HUMB 1.1.4	Recognise the evolution of human performance during an FISO's career.	2	*Optional content: experience, initial, unit, continuation and development training*	BASIC HUMB 1.1.4**

TOPIC HUMB 2 — HEALTH AND WELL-BEING				Ref to regulation (EU) 2015/340
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 2.1.1
BASIC HUMB 2.1.2	List the reasons for provisional inability to exercise the privileges of the FISO licence.	1	National regulation, BL 6-03 and BL 6-05 (Ref in BL 6-71)*	BASIC HUMB 2.1.2**
BASIC HUMB 2.1.3	Recognise signs of lack of personal fitness.	1	Cognitive and physical fitness	BASIC HUMB 2.1.3
BASIC HUMB 2.1.4	Describe good practices that contribute to maintaining fitness for duty.	2	*Optional content: fitness, diet*	BASIC HUMB 2.1.4
Subtopic HUMB 2.2 — Stress and fatigue				
BASIC HUMB 2.2.1	Define stress.	1	Regulation (EU) 2017/7373	BASIC HUMB 2.2.1
BASIC HUMB 2.2.2	Define fatigue.	1	Regulation (EU) 2017/373	BASIC HUMB 2.2.2
BASIC HUMB 2.2.3	Differentiate between stress and fatigue.	2	ICAO Doc 9966	BASIC HUMB 2.2.3
BASIC HUMB 2.2.4	Explain the causal factors of stress and fatigue.	2	*Optional content: EUROCONTROL Fatigue and sleep management*	BASIC HUMB 2.2.4
Subtopic HUMB 2.3 — Substance use and responsibility				
BASIC HUMB 2.3.1	Define psychoactive substance.	1	Regulation (EU) 2017/373, BL 7-5*	BASIC HUMB 2.3.1
BASIC HUMB 2.3.2	Explain the effect of psychoactive substance use on the individual and on safety.	2		BASIC HUMB 2.3.2

TOPIC HUMB 2 — HEALTH AND WELL-BEING				Ref to regulation (EU) 2015/340
BASIC HUMB 2.3.3	Describe individual responsibility in terms of psychoactive substance use.	2	Regulation (EU) 2017/373, BL 7-5*	BASIC HUMB 2.3.3

TOPIC HUMB 3 — HUMAN PERFORMANCE				Ref to regulation (EU) 2015/340
Subtopic HUMB 3.1 — Individual behaviour				
BASIC HUMB 3.1.1	Define human behaviour.	1		BASIC HUMB 3.1.1
BASIC HUMB 3.1.2	Explain the differences and commonalities that exist between people.	2	*Optional content: attitude, cultural, language, motivation*	BASIC HUMB 3.1.2
BASIC HUMB 3.1.3	Describe the reasons for complacency and the associated effects.	2	Safety, working relationship – team	BASIC HUMB 3.1.3
BASIC HUMB 3.1.4	Describe the reasons for overconfidence and the associated effects.	2	Safety, working relationship – team	BASIC HUMB 3.1.4
BASIC HUMB 3.1.5	Explain the dangers of boredom.	2		BASIC HUMB 3.1.5
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 3.2.1
BASIC HUMB 3.2.2	Describe role of how the FISO contributes to a positive safety culture	2	*Optional content: attitude towards safety, punctuality, rigour, adherence to rules and regulations, teamwork attitude, etc.*	BASIC HUMB 3.2.2**
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*	BASIC HUMB 3.2.3

TOPIC HUMB 4 — HUMAN ERROR				Ref to regulation (EU) 2015/340
Subtopic HUMB 4.1 — Definition of human error				
BASIC HUMB 4.1.1	Define human error.	1		BASIC HUMB 4.1.1
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 4.2.1

TOPIC HUMB 4 — HUMAN ERROR				Ref to regulation (EU) 2015/340
BASIC HUMB 4.2.2	Describe factors contributing 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 4.2.2
BASIC HUMB 4.2.3	Define violations.	1		BASIC HUMB 4.2.3
BASIC HUMB 4.2.4	Differentiate between errors and violations of rules and their consequences for the FISO.	2		BASIC HUMB 4.2.4**

TOPIC HUMB 5 — TEAMWORK				Ref to regulation (EU) 2015/340
Subtopic HUMB 5.1 — Teamwork and team roles				
BASIC HUMB 5.1.1	Define teamwork.	1		BASIC HUMB 5.1.1
BASIC HUMB 5.1.2	Describe the differences between social human relations and professional interactions.	2		BASIC HUMB 5.1.2
BASIC HUMB 5.1.3	Explain the different types of teams in the ATS environment.	2	*Optional content: executive/planner, shift team, sector group or ATS unit team, team with pilots, team with adjacent ATS units*	BASIC HUMB 5.1.3**
BASIC HUMB 5.1.4	Recognise the different types, roles and characters in a team.	1		BASIC HUMB 5.1.4
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*	BASIC HUMB 5.1.5

TOPIC HUMB 6 — COMMUNICATION				Ref to regulation (EU) 2015/340
Subtopic HUMB 6.1 — Communications in ATS				
BASIC HUMB 6.1.1	Define communication.	1		BASIC HUMB 6.1.1
BASIC HUMB 6.1.2	List FISO's communication partners.	1		BASIC HUMB 6.1.2**
BASIC HUMB 6.1.3	Explain good communication practices.	2	Speaking and listening	BASIC HUMB 6.1.3
BASIC HUMB 6.1.4	Differentiate between hearing and listening.	2		BASIC HUMB 6.1.4

TOPIC HUMB 6 — COMMUNICATION				Ref to regulation (EU) 2015/340
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 6.2.1
BASIC HUMB 6.2.2	Describe the factors which affect non-verbal communication.	2	*Optional content: touch, choice, expectation, noise, interruption*	BASIC HUMB 6.2.2
BASIC HUMB 6.2.3	Describe misunderstandings that may arise during a FISO's communication.	2		BASIC HUMB 6.2.3**

SUBJECT 8: EQUIPMENT AND SYSTEMS

TOPIC EQPSB 1 — ATS EQUIPMENT				Ref to regulation (EU) 2015/340
Subtopic EQPSB 1.1 — Main types of ATS equipment				
BASIC EQPSB 1.1.1	Explain the relevance of ATS equipment.	2	CWP, communication equipment, ATS surveillance systems	BASIC EQPSB 1.1.1**

TOPIC EQPSB 2 — RADIO				Rating	Ref to regulation (EU) 2015/340*
Subtopic EQPSB 2.1 — Radio theory					
BASIC EQPSB 2.1.1	Describe the characteristics of radio waves.	2	Propagation, limitations	RADIO	BASIC EQPSB 2.1.1
BASIC EQPSB 2.1.2	State the use, characteristics and limitations of frequency bands.	1	Use in ATS, communication, navigation, and surveillance, use and application in the Aeronautical Mobile Service.*	RADIO	BASIC EQPSB 2.1.2
BASIC EQPSB 2.1.3	State the different uses of radio wave spectrum.	1			BASIC EQPSB 2.1.3
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*	RADIO	BASIC EQPSB 2.2.1

TOPIC EQPSB 3 — COMMUNICATION EQUIPMENT				Rating	Ref to regulation (EU) 2015/340
Subtopic EQPSB 3.1 — Radio communications					
BASIC EQPSB 3.1.1	State the use of the radio in ATS.	1		RADIO	BASIC EQPSB 3.1.1**
BASIC EQPSB 3.1.2	Describe the working principles of a transmitting and receiving system.	2		RADIO	BASIC EQPSB 3.1.2
BASIC EQPSB 3.1.3	Explain the effect of antenna shadowing on RTF communications.	2		RADIO	BASIC EQPSB 3.1.3

TOPIC EQPSB 3 — COMMUNICATION EQUIPMENT				Rating	Ref to regulation (EU) 2015/340
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*		BASIC EQPSB 3.2.1
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 3.3.1
BASIC EQPSB 3.3.2	Explain the use and benefits of aircraft communications addressing and reporting system (ACARS).	2			BASIC EQPSB 3.3.2
Subtopic EQPSB 3.4 — Airline communications					
BASIC EQPSB 3.4.1	State the use of SELCAL.	1		RADIO	BASIC EQPSB 3.4.1

TOPIC EQPSB 4 — INTRODUCTION TO SURVEILLANCE				Ref to regulation (EU) 2015/340
Subtopic EQPSB 4.1 — Surveillance concept in ATS				
BASIC EQPSB 4.1.1	Describe the concept of surveillance for the provision of ATS.	2		BASIC EQPSB 4.1.1

TOPIC EQPSB 5 — RADAR				Ref to regulation (EU) 2015/340
Subtopic EQPSB 5.1 — Principles of radar				
BASIC EQPSB 5.1.1	State the principles of radar.	1		BASIC EQPSB 5.1.1
BASIC EQPSB 5.1.2	Recognise the characteristics of radar wavelengths.	1		BASIC EQPSB 5.1.2
BASIC EQPSB 5.1.3	Recognise the use, characteristics and limitations of different radar types.	1	*Optional content: frequency bands, long and weather radar, high-resolution radar*	BASIC EQPSB 5.1.3
Subtopic EQPSB 5.2 — Primary radar				
BASIC EQPSB 5.2.1	Explain the working principles of PSR.	2		BASIC EQPSB 5.2.1
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 5.3.1
BASIC EQPSB 5.3.2	Explain SSR code management	2	Discrete, non-discrete codes, special codes	BASIC EQPSB 5.3.2
BASIC EQPSB 5.3.3	Explain the effect of antenna shadowing on SSR operation.	2		BASIC EQPSB 5.3.3

TOPIC EQPSB 5 — RADAR				Ref to regulation (EU) 2015/340
Subtopic EQPSB 5.4 — Use of radars				
BASIC EQPSB 5.4.1	Explain the use of PSR/SSR in FIS and in area, approach and aerodrome control.	2	Mode A, Mode C, Mode S, SMR *Optional content: DFTI*	BASIC EQPSB 5.4.1**
BASIC EQPSB 5.4.2	Explain the advantages and disadvantages of PSR/SSR.	2		BASIC EQPSB 5.4.2

TOPIC EQPSB 6 — AUTOMATIC DEPENDENT SURVEILLANCE				Ref to regulation (EU) 2015/340
Subtopic EQPSB 6.1 — Principles of automatic dependent surveillance				
BASIC EQPSB 6.1.1	State the different applications of ADS.	1	ADS-B, ADS-C	BASIC EQPSB 6.1.1
BASIC EQPSB 6.1.2	Explain the working principles of ADS.	2		BASIC EQPSB 6.1.2
Subtopic EQPSB 6.2 — Use of automatic dependent surveillance				
BASIC EQPSB 6.2.1	Describe the use of ADS in ATS.	2	Area, approach, aerodrome, ICAO Doc 4444	BASIC EQPSB 6.2.1**
BASIC EQPSB 6.2.2	Explain the limitations of ADS.	2	Dependency on GNSS, dependency on airborne equipment	BASIC EQPSB 6.2.2

TOPIC EQPSB 7 — MULTILATERATION				Ref to regulation (EU) 2015/340
Subtopic EQPSB 7.1 — Principles of multilateration				
BASIC EQPSB 7.1.1	State the different applications of MLAT.	1	*Optional content: ATS, environmental management, airport operations, LAM, WAM**	BASIC EQPSB 7.1.1
BASIC EQPSB 7.1.2	Explain the working principles of MLAT.	2	*Optional content: passive and active MLAT*	BASIC EQPSB 7.1.2**
Subtopic EQPSB 7.2 — Use of multilateration				
BASIC EQPSB 7.2.1	Describe the use of MLAT in ATS.	2	Area, approach, aerodrome	BASIC EQPSB 7.2.1
BASIC EQPSB 7.2.2	Explain the limitations of MLAT.	2	Dependency on airborne equipment	BASIC EQPSB 7.2.2

TOPIC EQPSB 8 — DATA PROCESSING				Ref to regulation (EU) 2015/340
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 8.1.1

TOPIC EQPSB 8 — DATA PROCESSING				Ref to regulation (EU) 2015/340
BASIC EQPSB 8.1.2	Describe the implementation of Surveillance Data Networks.	2	*Optional content: different technologies/sensors, network*	BASIC EQPSB 8.1.2
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 8.2.1
BASIC EQPSB 8.2.2	State other use of processed surveillance Data.	1	*Optional content: safety nets, airport operations, environmental management*	BASIC EQPSB 8.2.2
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*	BASIC EQPSB 8.3.1

TOPIC EQPSB 9 — FUTURE EQUIPMENT				Ref to regulation (EU) 2015/340
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		BASIC EQPSB 9.1.1

TOPIC EQPSB 10 — AUTOMATION IN ATS				Ref to regulation (EU) 2015/340
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		BASIC EQPSB 10.1.1
Subtopic EQPSB 10.2 — Aeronautical fixed telecommunication network (AFTN)				
BASIC EQPSB 10.2.1	Describe the principles of AFTN.	2		BASIC EQPSB 10.2.1
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 10.3.1
BASIC EQPSB 10.3.2	Describe the limitations of automatic exchange of ATS data in coordination.	2	Non-recognition of a system's failure	BASIC EQPSB 10.3.2
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 10.4.1
BASIC EQPSB 10.4.2	Explain the use of ATIS and VOLMET in ATS.	2	Regulation (EU) No 923/2012, ICAO Annex 3	BASIC EQPSB 10.4.2

TOPIC EQPSB 11 — WORKING POSITIONS				Ref to regulation (EU) 2015/340
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*	BASIC EQPSB 11.1.1
Subtopic EQPSB 11.2 — AFIS				
BASIC EQPSB 11.2.1	Recognise equipment to be found specifically in an AFIS tower.	1	*Optional content: wind indicator, aerodrome traffic monitor, crash alarm, signalling lamp, lighting control panel, runway-in-use indicator, binoculars, signalling/flare gun, RVR and altimeter-setting indicators, local information systems*	BASIC EQPSB 11.2.1**
Subtopic EQPSB 11.3 — Enroute FIS				
BASIC EQPSB 11.3.1	Recognise equipment to be found specifically in an enroute FIS position.	1	*Optional content: surveillance system, flight progress display, radio, telephone/interphone, local information systems*	

SUBJECT 9: PROFESSIONAL ENVIRONMENT

TOPIC PENB 1 — FAMILIARISATION				Ref to regulation (EU) 2015/340
Subtopic PENB 1.1 — ATS and aerodrome facilities				
BASIC PENB 1.1.1	Recognise civil and military ATS facilities.	1	*Optional content: Enroute FIS, AFIS, TWR, APP, ACC, AIS, RCC, Air Defence Unit**	BASIC PENB 1.1.1
BASIC PENB 1.1.2	Recognise airport facilities and local operators.	1	*Optional content: firefighting and emergency services, airline operations*	BASIC PENB 1.1.2

TOPIC PENB 2 — AIRSPACE USERS				Ref to regulation (EU) 2015/340
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*	BASIC PENB 2.1.1
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*	BASIC PENB 2.2.1
Subtopic PENB 2.3 — Expectations and requirements of pilots				
BASIC PENB 2.3.1	Recognise the expectations and requirements of pilots.	1		BASIC PENB 2.3.1
BASIC PENB 2.3.2	State the use of Standard Operating Procedures (SOPs) by aircraft operators.	1		BASIC PENB 2.3.2

TOPIC PENB 3 — CUSTOMER RELATIONS				Ref to regulation (EU) 2015/340
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 3.1.1
BASIC PENB 3.1.2	Recognise the means by which ATS providers are funded.	1		BASIC PENB 3.1.2

TOPIC PENB 4 — ENVIRONMENTAL PROTECTION				Ref to regulation (EU) 2015/340
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 4.1.1
BASIC PENB 4.1.2	Explain the role of ATS in the concept of sustainable development.	2	*Optional content: ICAO Annex 16*	BASIC PENB 4.1.2
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 procedure*	BASIC PENB 4.1.3

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Annex 2 – DK CCC FIS Initial training Phase II, Aerodrome Flight Information Service Instrument Rating – (AFI) Module 1.

Phase II – Rating specialised training Module AFI provides the Danish Common Core Content CCC Training requirements and objectives for **Aerodrome Flight Information Service Instrument Rating** training.

The content of the rating training course is based on the assumption that the student has successfully completed the Phase I – Basic FIS Training, as a prerequisite.

Following the tabulated format of Phase I, the **Aerodrome Flight Information Service Instrument Rating** training content has been subdivided into subjects:

1. Introduction to the Course (INTR)
2. Aviation Law (LAW)
3. Air Traffic Management (ATM)
4. Meteorology (MET)
5. Navigation (NAV)
6. Aircraft (ACFT)
7. Human Factors (HUM)
8. Equipment and Systems (EQPS)
9. Professional Environment (PEN)
10. Abnormal and Emergency Situations (ABES)
11. Aerodromes (AGA)

The order of the subjects and objectives is neither intended to convey a pedagogical sequence nor to indicate a relative level of importance.

The training designer will need to know that the student has successfully completed the Phase I Course.

Aerodrome Flight Information Service Instrument Rating training shall as a minimum contain the following subject objectives and training objectives that are associated with the subjects, topics and subtopics:

SUBJECT OBJECTIVES AND TRAINING OBJECTIVES

SUBJECT 1: INTRODUCTION TO THE COURSE

TOPIC INTR 1 — COURSE MANAGEMENT				Rating	Ref to regulation (EU) 2015/340
Subtopic INTR 1.1 — Course introduction					
AFI INTR 1.1.1	Explain the aims and main objectives of the course.	2		ALL	ADC INTR 1.1.1
Subtopic INTR 1.2 — Course administration					
AFI INTR 1.2.1	State how the course is administered.	1		ALL	ADC INTR 1.2.1
Subtopic INTR 1.3 — Study material and training documentation					
AFI 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 1.3.1
AFI INTR 1.3.2	Integrate appropriate information into course studies.	4	Training documentation *Optional content: supplementary information, library*	ALL	ADC INTR 1.3.2

TOPIC INTR 2 — INTRODUCTION TO THE FISO TRAINING COURSE				Rating	Ref to regulation (EU) 2015/340
Subtopic INTR 2.1 — Course content and organisation					
AFI 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 2.1.1
AFI INTR 2.1.2	State the subjects covered by the course and their purpose.	1		ALL	ADC INTR 2.1.2
AFI INTR 2.1.3	Describe the organisation of theoretical training.	2	*Optional content: course programme*	ALL	ADC INTR 2.1.3
AFI INTR 2.1.4	Describe the organisation of practical training.	2	*Optional content: PTP, simulation, briefing, debriefing, course programme*	ALL	ADC INTR 2.1.4
Subtopic INTR 2.2 — Training ethos					
AFI INTR 2.2.1	Recognise the feedback mechanisms available.	1	Training progress, assessment, briefing, debriefing, learner–instructor feedback, instructor–instructor feedback	ALL	ADC INTR 2.2.1
Subtopic INTR 2.3 — Assessment process					
AFI INTR 2.3.1	Describe the assessment process	2		ALL	ADC INTR 2.3.1

SUBJECT 2: AVIATION LAW

TOPIC LAW 1 — FISO LICENSING/CERTIFICATE OF COMPETENCE				Rating	Ref to regulation (EU) 2015/340
Subtopic LAW 1.1 — Privileges and conditions					
AFI LAW 1.1.1	Appreciate the conditions which shall be met to issue an FIS licence.	3	BL 6-71*	ALL	ADC LAW 1.1.1**
AFI 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 1.1.2
AFI LAW 1.1.3	Explain the conditions for suspension/revocation of an FISO licence.	2	BL 6-71*	ALL	ADC LAW 1.1.3**

TOPIC LAW 2 — RULES AND REGULATIONS				Rating	Ref to regulation (EU) 2015/340
Subtopic LAW 2.1 — Reports					
AFI LAW 2.1.1	Describe the functions of, and processes for, reporting.	2	Reporting culture, mandatory and voluntary occurrence reporting forms, Regulation (EU) No 376/2014, Regulation (EU) 2015/1018 *Optional content: breach of regulations, watchbook/ logbook, records, voluntary reporting*	ALL	ADC LAW 2.1.1
AFI LAW 2.1.2	Use forms for reporting.	3	Regulation (EU) No 376/2014, mandatory and voluntary occurrence reporting forms *Optional content: routine air-reports, breach of regulations, watchbook/logbook, records*	ALL	ADC LAW 2.1.2
Subtopic LAW 2.2 — Airspace					
AFI LAW 2.2.1	Appreciate airspace classes and structure and their relevance to AFIS operations.	3		AFI AFI SUR	ADC LAW 2.2.1**
AFI LAW 2.2.2	Provide planning, coordination and FIS actions appropriate to the classification and structure of airspace	4	*Optional content: Regulation (EU) No 923/2012, BL 7-1, international requirements, civil requirements, military requirements, areas of responsibility, sectorisation, national requirements**	ALL	ADC LAW 2.2.2**
AFI LAW 2.2.3	Appreciate responsibility for terrain clearance.	3		ALL	ADC LAW 2.2.3

TOPIC LAW 3 — ATS SAFETY MANAGEMENT				Rating	Ref to regulation (EU) 2015/340
Subtopic LAW 3.1 — Feedback process					
AFI LAW 3.1.1	State the importance of FISO contribution to the feedback process.	1	*Optional content: voluntary reporting*	ALL	ADC LAW 3.1.1**
AFI LAW 3.1.2	Describe how reported occurrences are analysed.	2	*Optional content: Regulation (EU) No 376/2014, local procedures*	ALL	ADC LAW 3.1.2
AFI LAW 3.1.3	Name the means used to disseminate recommendations.	1	*Optional content: safety letters, safety boards web pages*	ALL	ADC LAW 3.1.3
AFI LAW 3.1.4	Appreciate the Just Culture concept	3	Benefits, prerequisites, constraints *Optional content: Skybrary*	ALL	ADC LAW 3.1.4
Subtopic LAW 3.2 — Safety investigation					
AFI LAW 3.2.1	Describe the role and objectives of safety investigation in the improvement of safety	2		ALL	ADC LAW 3.2.1

SUBJECT 3: AIR TRAFFIC MANAGEMENT

TOPIC ATM 1 — PROVISION OF SERVICES				Rating	Ref to regulation (EU) 2015/340
Subtopic ATM 1.1 — Aerodrome Flight Information Service					
AFI ATM 1.1.1	Appreciate areas of responsibility.	3	Flight Information Zone, traffic circuit, manoeuvring area, movement area, vicinity.* *Optional content: ATZ*	AFI AFI SUR	ADC ATM 1.1.1
AFI ATM 1.1.2	Provide Aerodrome Flight Information Service	4	Regulation (EU) No 923/2012, Regulation (EU) 2017/373*	AFI AFI SUR	ADC ATM 1.1.2**
Subtopic ATM 1.2 — Flight information service (FIS)					
AFI ATM 1.2.1	Describe the information that shall be passed on to aircraft by an AFISO.	2	Regulation (EU) 2017/373*	AFI AFI SUR	ADC ATM 1.2.1**
AFI ATM 1.2.2	Provide FIS.	4	Regulation (EU) No 923/2012, Regulation (EU) 2017/373 *Optional content: national documents*	ALL	ADC ATM 1.2.2
AFI ATM 1.2.3	Issue appropriate information.	3	Regulation (EU) 2017/373*	AFI AFI SUR	ADC ATM 1.2.3
AFI ATM 1.2.4	Appreciate the use of ATIS in the provision of flight information service	3	Regulation (EU) No 923/2012	ALL	ADC ATM 1.2.4
Subtopic ATM 1.3 — Alerting service (ALRS)					
AFI ATM 1.3.1	Provide ALRS.	4	Regulation (EU) 2017/373, Regulation (EU) No 923/2012 *Optional content: national documents*	ALL	ADC ATM 1.3.1
AFI 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	ADC ATM 1.3.2
Subtopic ATM 1.4 — ATS system capacity and air traffic flow management					
AFI ATM 1.4.1	Appreciate the impact of ATS system capacity and air traffic flow management on the AFISO.	3	*Optional content: EUROCONTROL ATFCM User's Manual, slot management, slot allocation procedures, local implementation of ATFCM principles, etc.*	AFI AFI SUR	ADC ATM 1.4.1**
AFI ATM 1.4.2	Provide information to pilots in order for them to take account of flow measures in movements and decisions.	4	Regulation (EU) No 923/2012, Regulation (EU) 2017/373*	AFI AFI SUR	ADC ATM 1.4.2**
AFI ATM 1.4.3	Provide information regarding flow messages and CTOT (Calculated Take Off Times) times.	4	Regulation (EU) No 923/2012, Regulation (EU) 2017/373*	AFI AFI SUR	ADC ATM 1.4.3**

TOPIC ATM 2 — COMMUNICATION				Rating	Ref to regulation (EU) 2015/340
Subtopic ATM 2.1 — Effective communication					
AFI ATM 2.1.1	List the communication means between FISO and between FISO and controllers.	1	*Optional content: electronic, written, verbal and non-verbal communication*	ALL	ADC ATM 2.1.1**
AFI ATM 2.1.2	Select the most suitable means of communication given the situation.	5		ALL	ADC ATM 2.1.2
AFI ATM 2.1.3	Use approved phraseology	3	Regulation (EU) No 923/2012, BL 7-1, BL 7-5, BL 7-14* *Optional content: published national/local language phraseology*	ALL	ADC ATM 2.1.3
AFI ATM 2.1.4	Ensure effective communication	4	Use of plain language when required, communication within the sector/working position, between the sectors/WPs/ATS units, readback/verification of readback	ALL	ADC ATM 2.1.4
AFI ATM 2.1.5	Analyse examples of pilot and FISO communication for effectiveness	4	*Optional content: real-life recordings, situation in the simulator*	ALL	ADC ATM 2.1.5**

TOPIC ATM 3 — ATC CLEARANCES AND ATC INSTRUCTIONS				Rating	Ref to regulation (EU) 2015/340
Subtopic ATM 3.1 — ATC clearances					
AFI ATM 3.1.1	Relay appropriate ATC clearances.	3	Regulation (EU) No 923/2012, Regulation (EU) 2017/373	ALL	
Subtopic ATM 3.2 — ATC instructions					
AFI ATM 3.2.1	Relay appropriate ATC instructions.	3	Regulation (EU) No 923/2012, Regulation (EU) 2017/373	ALL	

TOPIC ATM 4 — COORDINATION				Rating	Ref to regulation (EU) 2015/340
Subtopic ATM 4.1 — Necessity for coordination					
AFI ATM 4.1.1	Identify the need for coordination.	3		ALL	ADC ATM 4.1.1
Subtopic ATM 4.2 — Tools and methods for coordination					
AFI 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	ADC ATM 4.2.1

TOPIC ATM 4 — COORDINATION				Rating	Ref to regulation (EU) 2015/340
Subtopic ATM 4.3 — Coordination procedures					
AFI ATM 4.3.1	Initiate appropriate coordination.	3	Regulation (EU) 2017/373*	ALL	ADC ATM 4.3.1
AFI ATM 4.3.2	Analyse effect of coordination requested by an adjacent position/unit.	4	*	ALL	ADC ATM 4.3.2
AFI ATM 4.3.3	Select, after negotiation, an appropriate course of action.	5		ALL	ADC ATM 4.3.3
AFI ATM 4.3.4	Ensure that the agreed course of action is carried out.	4		ALL	ADC ATM 4.3.4
AFI ATM 4.3.5	Coordinate when providing FIS.	4	Regulation (EU) 2017/373*	ALL	ADC ATM 4.3.5
AFI ATM 4.3.6	Coordinate when providing ALRS.	4	Regulation (EU) 2017/373*	ALL	ADC ATM 4.3.6

TOPIC ATM 5 — ALTIMETRY AND LEVEL ALLOCATION				Rating	Ref to regulation (EU) 2015/340
Subtopic ATM 5.1 — Altimetry					
AFI ATM 5.1.1	Appreciate the pilot's responsibility to choose levels according to altimetry data.	3	Regulation (EU) No 923/2012, BL 7-1, BL 7-5 *	ALL	ADC ATM 5.1.1**
AFI ATM 5.1.2	Inform pilots of appropriate levels (heights, altitudes, and flight levels) according to altimetry data.	4	Regulation (EU) No 923/2012	ALL	
AFI ATM 5.1.3	Provide information in regards to altimetry data.	4	Regulation (EU) No 923/2012	ALL	
Subtopic ATM 5.2 — Terrain clearance					
AFI ATM 5.2.1	Appreciate the pilot's responsibility for terrain clearance.	4	*Optional content: terrain clearance dimensions, minimum safe altitudes, transition level, minimum flight level, minimum sector altitude**	AFI AFI SUR	ADC ATM 5.2.1**

TOPIC ATM 6 — SEPARATIONS				Rating	Ref to regulation (EU) 2015/340
Subtopic ATM 6.1 — Separations					
AFI ATM 6.1.1	Appreciate the responsibility for controllers in adjacent airspace to separate traffic.	3	Regulation (EU) 2017/373	ALL	
AFI ATM 6.1.2	Appreciate methods used by controllers in adjacent airspace to separate traffic.	3	Regulation (EU) 2017/373	ALL	

TOPIC ATM 7 — AIRBORNE GROUND-BASED SAFETY NETS				Rating	Ref to regulation (EU) 2015/340
Subtopic ATM 7.1 — Airborne safety nets					
AFI ATM 7.1.1	Describe the FISO responsibility during and following an ACAS RA reported by pilot.	2	Regulation (EU) 923/2012 *Optional content: ICAO Doc 4444, ICAO Doc 9863, Skybrary Safety Nets*	ALL	ADC ATM 7.1.2**
AFI ATM 7.1.2	Respond to pilot notification of actions based on airborne systems warnings.	3	*Optional content: ACAS, Skybrary Safety Nets*	ALL	ADC ATM 7.1.3
AFI ATM 7.1.3	Explain the effect of airborne collision avoidance systems on FIS operations.	2	ACAS, TCAS	ALL	
Subtopic ATM 7.2 — Ground-based safety nets					
AFI ATM 7.2.1	Respond to available ground-based safety nets warnings	3	*Optional content: anti-incursion*	AFI AFI SUR	ADC ATM 7.2.1

TOPIC ATM 8 — DATA DISPLAY				Rating	Ref to regulation (EU) 2015/340
Subtopic ATM 8.1 — Data management					
AFI 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 8.1.1
AFI ATM 8.1.2	Analyse pertinent data on data displays.	4		ALL	ADC ATM 8.1.2
AFI ATM 8.1.3	Organise pertinent data on data displays.	4		ALL	ADC ATM 8.1.3
AFI ATM 8.1.4	Obtain flight plan information.	3	CPL, supplementary information *Optional content: FPL, AFIL, etc*	ALL	ADC ATM 8.1.4
AFI ATM 8.1.5	Use flight plan information.	3		ALL	ADC ATM 8.1.5

TOPIC ATM 9 — OPERATIONAL ENVIRONMENT (SIMULATED)				Rating	Ref to regulation (EU) 2015/340
Subtopic ATM 9.1 — Integrity of the operational environment					
AFI 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 9.1.1
AFI ATM 9.1.2	Ensure the integrity of the operational environment.	4	*Optional content: frequency, VOLMET, ATIS, SIGMET, systems' set-up, integrity of displays*	AFI AFI SUR	ADC ATM 9.1.2
Subtopic ATM 9.2 — Verification of the currency of operational procedures					
AFI ATM 9.2.1	Check all relevant documentation before managing traffic.	3	*Optional content: briefing, letters of agreement (LoAs), NOTAMs, AICs*	ALL	ADC ATM 9.2.1
Subtopic ATM 9.3 — Handover–takeover					
AFI ATM 9.3.1	Transfer information to the relieving FISO.	3		ALL	ADC ATM 9.3.1**
AFI ATM 9.3.2	Obtain information from the FISO handing over	3		ALL	ADC ATM 9.3.2**
AFI ATM 9.3.3	List possible actions to provide a safe position handover-takeover.	1	*Optional content: rigour, preparation, overlap time*	ALL	ADC ATM 9.3.3
AFI ATM 9.3.4	Explain consequences of a missed position handover-takeover process	2		ALL	ADC ATM 9.3.4

TOPIC ATM 10 — PROVISION OF AN AERODROME FLIGHT INFORMATION SERVICE				Rating	Ref to regulation (EU) 2015/340
Subtopic ATM 10.1 — Responsibility for the provision					
AFI ATM 10.1.1	Explain the responsibility for the provision of Aerodrome Flight Information Service	2	Regulation (EU) 2017/373 Regulation (EU) 923/2012*	AFI AFI SUR	ADC ATM 10.1.1**
AFI ATM 10.1.2	Describe the division of responsibility among ATS units.	2	Regulation (EU) 2017/373*	ALL	ADC ATM 10.1.2
AFI ATM 10.1.3	Describe the responsibility in regard to military traffic.	2	*	ALL	ADC ATM 10.1.3
AFI ATM 10.1.4	Describe the responsibility in regard to unmanned free balloons.	2	Regulation (EU) No 923/2012. BL 7-1*	ALL	ADC ATM 10.1.4
AFI ATM 10.1.5	Provide information about unmanned free balloons.	4	Regulation (EU) 2017/373	ALL	
AFI ATM 10.1.6	Appreciate the influence of operational requirements.	3	*Optional content: military flying, calibration flights, aerial photography*	ALL	ADC ATM 10.1.5

TOPIC ATM 10 — PROVISION OF AN AERODROME FLIGHT INFORMATION SERVICE				Rating	Ref to regulation (EU) 2015/340
Subtopic ATM 10.2 — Traffic management process					
AFI ATM 10.2.1	Ensure that situational awareness is maintained.	4	Information gathering, observation, traffic projection	AFI AFI SUR	ADC ATM 10.2.1
AFI ATM 10.2.2	Detect conflicts in time for timely traffic information.	4		ALL	ADC ATM 10.2.2
AFI ATM 10.2.3	Identify potential solutions to achieve a safe and effective flow of aerodrome traffic.	3		AFI AFI SUR	ADC ATM 10.2.3
AFI ATM 10.2.4	Evaluate possible outcomes of different planning and AFI actions.	5		AFI AFI SUR	ADC ATM 10.2.4**
AFI ATM 10.2.5	Select an appropriate plan in time to achieve safe and effective flow of aerodrome traffic.	5		AFI AFI SUR	ADC ATM 10.2.5
AFI ATM 10.2.6	Ensure an adequate priority of actions.	4		ALL	ADC ATM 10.2.6
AFI ATM 10.2.7	Execute the selected plan in a timely manner.	3		ALL	ADC ATM 10.2.7
AFI ATM 10.2.8	Ensure that a safe and efficient outcome is achieved.	4	Traffic monitoring, adaptability, and follow-up	ALL	ADC ATM 10.2.8
Subtopic ATM 10.3— Aeronautical ground lights					
AFI ATM 10.3.1	Select appropriate aeronautical ground lights.	5	Regulation (EU) 2017/373	AFI AFI SUR	ADC ATM 10.3.1
Subtopic ATM 10.4 — Information to aircraft by AFIS					
AFI ATM 10.4.1	Provide information related to the operation of aircraft.	4	Regulation (EU) 2017/373, Regulation (EU) No 255/2010	AFI AFI SUR	ADC ATM 10.4.1
AFI ATM 10.4.2	Provide information on aerodrome conditions.	4	Regulation (EU) No 923/2012, Regulation (EU) 2017/373	AFI AFI SUR	ADC ATM 10.4.2
AFI ATM 10.4.3	Integrate Direction Finding information in managing a safe and orderly and expeditions flow of traffic.	4	*Optional content: ADF, UDF, VDF*	AFI AFI SUR	
Subtopic ATM 10.5 — Runway in use					
AFI ATM 10.5.1	Select the runway in use.	4	Regulation (EU) No 923/2012, Regulation (EU) 2017/373, BL 7-5*	AFI AFI SUR	ADC ATM 10.5.1
AFI ATM 10.5.2	Coordinate the runway in use.	4	*Optional content: approach control, area control, runway selection, change of runway*	AFI AFI SUR	ADC ATM 10.5.2
AFI ATM 10.5.3	Provide information in the event of runway-in-use change.	4	*	AFI AFI SUR	ADC ATM 10.5.3**

TOPIC ATM 10 — PROVISION OF AN AERODROME FLIGHT INFORMATION SERVICE				Rating	Ref to regulation (EU) 2015/340
Subtopic ATM 10.6 — Aerodrome traffic					
AFI ATM 10.6.1	Predict positions of aircraft in the aerodrome traffic and taxi circuits	4	Regulation (EU) 2017/373	AFI AFI SUR	ADC ATM 10.6.1
AFI ATM 10.6.2	Provide traffic information and information to traffic on the manoeuvring area.	4	Regulation (EU) 2017/373*	AFI AFI SUR	ADC ATM 10.6.2**
AFI ATM 10.6.3	Provide information in accordance with a change to operational procedures.	4	*Optional content: taxiway closure**	AFI AFI SUR	ADC ATM 10.6.3**
AFI ATM 10.6.4	Balance the workload against personal capacity.	5	*Optional content: replanning, prioritising solutions*	AFI AFI SUR	ADC ATM 10.6.4
AFI ATM 10.6.5	Manage the movement of vehicles and persons on the manoeuvring area	4	Regulation (EU) 2017/373, BL 7-5*	AFI AFI SUR	
Subtopic ATM 10.7 — Airborne traffic					
AFI ATM 10.7.1	Provide information to traffic in the traffic circuit.	4	Regulation (EU) 2017/373 Regulation (EU) No 923/2012	AFI AFI SUR	ADC ATM 10.7.1**
AFI ATM 10.7.2	Integrate the change in the serviceability of radio aids in the Flight Information Service.	4	*Optional content: limitations, availability and status of ground-based and satellite-based systems*	AFI AFI SUR	ADC ATM 10.7.2**
AFI ATM 10.7.3	Integrate surface conditions into the Flight Information Service.	4	*Optional content: damp, wet, water patches, flooding, snow, slush, ice, braking performance*	AFI AFI SUR	ADC ATM 10.7.3
AFI ATM 10.7.4	Integrate information about meteorological phenomena into the Flight Information Service.	4	*Optional content: clouds, precipitation, visibility, wind, meteorological hazards, IMC conditions*	AFI AFI SUR	ADC ATM 10.7.4**
Subtopic ATM 10.8 — Departing traffic					
AFI ATM 10.8.1	Provide appropriate information to departing aircraft.	4	Regulation (EU) No 923/2012, Regulation (EU) 2017/373, traffic information, meteorological phenomena, environmental factors, wake turbulence, relay of appropriate departure clearances*	AFI AFI SUR	ADC ATM 10.8.3**
Subtopic ATM 10.9 — Arriving traffic					
AFI ATM 10.9.1	Provide appropriate information to arriving aircraft.	4	Regulation (EU) 2017/373 Regulation (EU) No 923/2012, traffic information, meteorological phenomena, environmental factors, wake turbulence*	AFI AFI SUR	ADC ATM 10.9.6**
AFI ATM 10.9.2	Provide information in situations of low visibility.	4	Regulation (EU) 2017/373	AFI AFI SUR	ADC ATM 10.11.1**

TOPIC ATM 10 — PROVISION OF AN AERODROME FLIGHT INFORMATION SERVICE				Rating	Ref to regulation (EU) 2015/340
AFI ATM 10.9.3	Appreciate holding patterns and their uses.	3	Regulation (EU) 2017/373	AFI AFI SUR	

SUBJECT 4: METEOROLOGY

TOPIC MET 1 — METEOROLOGICAL PHENOMENA				Rating	Ref to regulation (EU) 2015/340
Subtopic MET 1.1 — Meteorological phenomena					
AFI MET 1.1.1	Appreciate the impact of different cloud types.	3	Cumulonimbus *Optional content: stratus, nimbostratus, etc*	AFI AFI SUR	ADC MET 1.1.1
AFI MET 1.1.2	Recognise different cloud types.	1		AFI AFI SUR	ADC MET 1.1.2
AFI MET 1.1.3	Appreciate the impact of precipitation.	3	Precipitation and microphysics *Optional content: rain, snow, sleet, hail*	AFI AFI SUR	ADC MET 1.1.3
AFI MET 1.1.4	Appreciate the impact of atmospheric obscurity.	3	*Optional content: advection fog, radiation fog, mixing, evaporation, mist, drizzle*	AFI AFI SUR	ADC MET 1.1.4
AFI MET 1.1.5	Appreciate the effect and impact of wind.	3	Gusting, veering, backing *Optional content: land breezes, sea breezes, Föhn*	AFI AFI SUR	ADC MET 1.1.5
AFI MET 1.1.6	Appreciate the effect and danger of hazardous meteorological phenomena.	3	Wind shear, turbulence, thunderstorms, icing, microbursts	AFI AFI SUR	ADC MET 1.1.6
AFI MET 1.1.7	Appreciate the effect of a frontal system on aerodrome operations.	3		AFI AFI SUR	ADC MET 1.1.7
AFI MET 1.1.8	Integrate data about meteorological phenomena into the provision of ATS.	4	Transmitted information *Optional content: relevant meteorological phenomena**	ALL	ADC MET 1.1.8

TOPIC MET 2 — SOURCES OF METEOROLOGICAL DATA				Rating	Ref to regulation (EU) 2015/340
Subtopic MET 2.1 — Meteorological instruments					
AFI MET 2.2.1	Extract information from meteorological instruments.	3	*Optional content: anemometer, RVR indicator, cloud base indicator, ceilometer, barometer*	AFI AFI SUR	ADC MET 2.2.1
Subtopic MET 2.2 — Other sources of meteorological data					
AFI MET 2.2.1	Decode information from meteorological data displays.	3		ALL	ADC MET 2.2.1
AFI MET 2.2.2	Use appropriate communication tools and networks to obtain meteorological data.	3		AFI AFI SUR	ADC MET 2.2.2
AFI MET 2.2.3	Relay meteorological information.	3	Regulation (EU) 2017/373, Regulation (EU) No 923/2012 *Optional content: flight information centre, adjacent ATS unit, ADS-C reports**	ALL	ADC MET 2.2.3

SUBJECT 5: NAVIGATION

TOPIC NAV 1 — MAPS AND AERONAUTICAL CHARTS				Rating	Ref to regulation (EU) 2015/340
Subtopic NAV 1.1 — Maps and charts					
AFI 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*	AFI AFI SUR	ADC NAV 1.1.1
AFI NAV 1.1.2	Use relevant maps and charts.	3		ALL	ADC NAV 1.1.2

TOPIC NAV 2 — INSTRUMENT NAVIGATION				Rating	Ref to regulation (EU) 2015/340
Subtopic NAV 2.1 — Navigational systems					
AFI 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*	AFI AFI SUR	ADC NAV 2.1.1
AFI 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 2.1.2
AFI NAV 2.1.3	Decode operational status displays of navigational systems.	3	*Optional content: VDF, NDB, VOR, DME, ILS and GBAS*	AFI AFI SUR	ADC NAV 2.1.3
Subtopic NAV 2.2 — Stabilised approach					
AFI NAV 2.2.1	Describe the concept of stabilised approach.	2	*Optional content: Skybrary*	AFI AFI SUR	ADC NAV 2.2.1
AFI 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*	AFI AFI SUR	ADC NAV 2.2.2
Subtopic NAV 2.3 — Instrument departures and arrivals					
AFI NAV 2.3.1	Describe relevant SIDs.	2		AFI AFI SUR	ADC NAV 2.3.1
AFI NAV 2.3.2	Describe the types and phases of instrument approach procedures.	2	Regulation (EU) 2017/373, ICAO Annex 6	AFI AFI SUR	ADC NAV 2.3.2
AFI 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*	AFI AFI SUR	ADC NAV 2.3.3
Subtopic NAV 2.4 — Satellite-based systems					
AFI 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*	AFI AFI SUR	ADC NAV 2.4.1

TOPIC NAV 2 — INSTRUMENT NAVIGATION				Rating	Ref to regulation (EU) 2015/340
Subtopic NAV 2.5 — PBN applications					
AFI NAV 2.5.1	State future PBN developments.	1	A-RNP, RNP (AR) DEP *Optional content: RNP 3D, VNAV, 4D, TBO*	ALL	ADC NAV 2.5.1

SUBJECT 6: AIRCRAFT

TOPIC ACFT 1 — AIRCRAFT INSTRUMENTS				Rating	Ref to regulation (EU) 2015/340
Subtopic ACFT 1.1 — Aircraft instruments					
AFI ACFT 1.1.1	Integrate information from aircraft instruments provided by the pilot into the provision of ATS.	4		ALL	ADC ACFT 1.1.1
AFI ACFT 1.1.2	Explain the operation of aircraft radio equipment.	2	*Optional content: radios (number of), emergency radios*	ALL	ADC ACFT 1.1.2

TOPIC ACFT 2 — AIRCRAFT CATEGORIES				Rating	Ref to regulation (EU) 2015/340
Subtopic ACFT 2.1 — Wake turbulence					
AFI ACFT 2.1.1	Explain the wake turbulence effect and associated hazards to succeeding aircraft.	2		ALL	ADC ACFT 2.1.1
AFI ACFT 2.1.2	Appreciate the techniques used to prevent hazards associated with wake turbulence to succeeding aircraft.	3		ALL	ADC ACFT 2.1.2
Subtopic ACFT 2.2 — Application of ICAO approach categories					
AFI ACFT 2.2.1	Describe the use of ICAO approach categories.	2	ICAO Doc 8168	AFI AFI SUR	ADC ACFT 2.2.1
AFI ACFT 2.2.2	Appreciate the effect of ICAO approach categories on the traffic organisation.	3		AFI AFI SUR	ADC ACFT 2.2.2

TOPIC ACFT 3 — FACTORS AFFECTING AIRCRAFT PERFORMANCE				Rating	Ref to regulation (EU) 2015/340
Subtopic ACFT 3.1 — Take-off factors					
AFI 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*	AFI AFI SUR	ADC ACFT 3.1.1
Subtopic ACFT 3.2 — Climb factors					
AFI ACFT 3.2.1	Appreciate the influence of factors affecting aircraft during climb.	3	*Optional content: speed, mass, air density, wind and temperature*	AFI AFI SUR	ADC ACFT 3.2.1
Subtopic ACFT 3.3 — Final approach and landing factors					
AFI ACFT 3.1.1	Integrate the influence of factors affecting aircraft during final approach and landing.	4	*Optional content: wind, aircraft configuration, mass, meteorological conditions, runway conditions*	AFI AFI SUR	ADC ACFT 3.1.1
Subtopic ACFT 3.4 — Economic factors					
AFI ACFT 3.4.1	Integrate consideration of economic factors affecting aircraft.	4	*Optional content: starting-up, taxiing, routing, departure sequence*	AFI AFI SUR	ADC ACFT 3.4.1

TOPIC ACFT 3 — FACTORS AFFECTING AIRCRAFT PERFORMANCE				Rating	Ref to regulation (EU) 2015/340
Subtopic ACFT 3.5 — Environmental factors					
AFI ACFT 3.5.1	Appreciate the performance restrictions due to environmental constraints.	3	*Optional content: noise-abatement procedures, minimum flight altitudes, bird strike hazard*	AFI AFI SUR	ADC ACFT 3.5.1

TOPIC ACFT 4 — AIRCRAFT DATA				Rating	Ref to regulation (EU) 2015/340
Subtopic ACFT 4.1 — Recognition of aircraft types					
AFI 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*	AFI AFI SUR	ADC ACFT 4.1.1
Subtopic ACFT 4.2 — Performance data					
AFI 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 flight information service.	4	Performance data under a representative variety of circumstances	ALL	ADC ACFT 4.2.1

SUBJECT 7: HUMAN FACTORS

TOPIC HUM 1 — INFORMATION PROCESSING				Rating	Ref to regulation (EU) 2015/340
Subtopic HUM 1.1 — Cognition and factors influencing it					
AFI HUM 1.1.1	Describe the human information-processing model.	2	Attention, perception, memory, situational awareness, decision-making, response	ALL	ADC HUM 1.1.1
AFI 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	ADC HUM 1.1.2
Subtopic HUM 1.2 — Situational awareness					
AFI 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	ADC HUM 1.2.1
Subtopic HUM 1.3 — Decision-making					
AFI 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	ADC HUM 1.3.1

TOPIC HUM 2 —FACTORS AFFECTING HEALTH AND WELL-BEING				Rating	Ref to regulation (EU) 2015/340
Subtopic HUM 2.1 — Fatigue					
AFI 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 2.1.1
AFI SUR 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 2.1.2
AFI HUM 2.1.3	Describe appropriate action when recognising fatigue.	2	*Optional content: Skybrary Human Behaviour: EUROCONTROL Fatigue and sleep management*	ALL	ACS HUM 2.1.3
Subtopic HUM 2.2 — Stress					
AFI HUM 2.2.1	Recognise the effects of stress on performance.	1	Stress and its symptoms in self and in others *Optional content: Regulation (EU) 2017/373*	ALL	ADC HUM 2.2.1
AFI HUM 2.2.2	Describe appropriate action when recognising stress.	2		ALL	ADC HUM 2.2.2

TOPIC HUM 2 —FACTORS AFFECTING HEALTH AND WELL-BEING				Rating	Ref to regulation (EU) 2015/340
AFI HUM 2.2.3	Act to reduce stress.	3		ALL	ADC HUM 2.2.3
AFI HUM 2.2.4	Respond to stressful situation by offering, asking or accepting assistance.	3		ALL	ACS HUM 2.1.1
AFI HUM 2.2.5	Recognise the effect of stressful events.	1	Self and others, abnormal situations	ALL	ACS HUM 2.1.2

TOPIC HUM 3 — THREAT AND ERROR MANAGEMENT				Rating	Ref to regulation (EU) 2015/340
Subtopic HUM 3.1 — Threat and error management framework					
AFI 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 3.1.1
AFI 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 3.1.2
AFI HUM 3.1.3	Differentiate threats in FIS.	2	Internal, external, airborne, environmental *Optional content: ICAO Circular 314 – AN/178 Threat and Error Management (TEM) in Air Traffic Control*	ALL	ADC HUM 3.1.3 **
AFI HUM 3.1.4	Differentiate errors in FIS.	2	Equipment, procedural, communication *Optional content: Increase in traffic, changes in procedures, complexities of systems or traffic, weather, unusual occurrences*	ALL	ADC HUM 3.1.4 **
AFI 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 3.1.5
AFI HUM 3.1.6	Analyse examples of threat and error management in FIS.	4	Case studies *Optional content: ICAO Circular 314 – AN/178 Threat and Error Management (TEM) in Air Traffic Control*	ALL	ADC HUM 3.1.6 **

TOPIC HUM 3 — THREAT AND ERROR MANAGEMENT				Rating	Ref to regulation (EU) 2015/340
Subtopic HUM 3.1 — Applied threat and error management					
AFI 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 3.2.1.
AFI 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 3.2.2
AFI 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	ADC HUM 3.2.3

TOPIC HUM 4 — TEAMWORK				Rating	Ref to regulation (EU) 2015/340
Subtopic HUM 4.1 — Benefits of teamwork					
AFI HUM 4.1.1	State the benefits of teamwork.	1	Increased safety, efficiency and capacity	ALL	ADC HUM 4.1.1
AFI HUM 4.1.2	List the FISO's human performance elements affected by teamwork.	1	Situational awareness, communication, decision-making, threat and error management, workload management	ALL	ADC HUM 4.1.2 **
Subtopic HUM 4.2 — Conflict management					
AFI HUM 4.2.1.	Identify reasons for conflict.	3		ALL	ADC HUM 4.2.1.
AFI HUM 4.2.2	Describe strategies to cope with human conflicts.	2	*Optional content: in your team, in the simulator*	ALL	ADC HUM 4.2.2
AFI HUM 4.2.3	Describe actions to prevent human conflicts.	2		ALL	ADC HUM 4.2.3

TOPIC HUM 5 — SYSTEMS				Rating	Ref to regulation (EU) 2015/340
Subtopic HUM 5.1 — Concept of systems in ATM/ANS					
AFI 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 5.1.1.
AFI HUM 5.1.2	Describe how changes in one part of a system may impact the other parts.	2		ALL	ADC HUM 5.1.2

TOPIC HUM 5 — SYSTEMS				Rating	Ref to regulation (EU) 2015/340
AFI HUM 5.1.3	Describe the role of the human in the system.	2		ALL	ADC HUM 5.1.3

TOPIC HUM 6 — COMMUNICATION				Rating	Ref to regulation (EU) 2015/340
Subtopic HUM 6.1 — Effective communication					
AFI HUM 6.1.1	Explain effective communication in FIS operations.	2	ICAO Doc 9868	ALL	ADC HUM 6.1.1 **
AFI 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 6.1.2
AFI HUM 6.1.3	Describe parameters affecting the FISO's communication competency	2	Workload, mutual knowledge, FISO versus pilot mental picture, distractions, sound, human conflicts *Optional content: Communication between and in the team(s), in the simulator, with the pilots, instructors, coordination partners**	ALL	ADC HUM 6.1.3**
Subtopic HUM 6.2 — Effective feedback					
AFI HUM 6.2.1	Define feedback	1		ALL	ADC HUM 6.2.1
AFI HUM 6.2.2	Explain the purpose of receiving and giving feedback and its effect on performance.	2		ALL	ADC HUM 6.2.2
AFI HUM 6.2.3	Consider the impact of communication styles on feedback and resolving conflicts.	2		ALL	ADC HUM 6.2.3
AFI HUM 6.2.4	Integrate feedback into performance.	4		ALL	ADC HUM 6.2.4

SUBJECT 8: EQUIPMENT AND SYSTEMS

TOPIC EQPS 1 — VOICE COMMUNICATIONS				Rating	Ref to regulation (EU) 2015/340
Subtopic EQPS 1.1 — Radio communications					
AFI EQPS 1.1.1	Operate two-way communication equipment.	3	Transmit/receive switches, procedures. *Optional content: frequency selection, standby equipment*	ALL	ADC EQPS 1.1.1
AFI EQPS 1.1.2	Identify indications of operational status of radio equipment.	3	*Optional content: indicator lights, serviceability displays, selector/frequency displays*	ALL	ADC EQPS 1.1.2
Subtopic EQPS 1.2 — Other voice communications					
AFI EQPS 1.2.1	Operate landline communications.	3	*Optional content: telephone, interphone and intercom equipment*	ALL	ADC EQPS 1.2.1

TOPIC EQPS 2 — AUTOMATION IN ATS				Rating	Ref to regulation (EU) 2015/340
Subtopic EQPS 2.1 — Aeronautical fixed telecommunication network (AFTN)					
AFI EQPS 2.1.1	Decode AFTN messages.	3	*Optional content: movement and control messages, NOTAMs, SNOWTAMs, BIRDTAMs, etc.*	ALL	ADC EQPS 2.1.1
Subtopic EQPS 2.2 — Automatic data interchange					
AFI EQPS 2.2.1	Explain operational application of CPDLC.	2	ICAO Doc 9694	ALL	ADC EQPS 2.2.2**

TOPIC EQPS 3 — AFIO WORKING POSITION				Rating	Ref to regulation (EU) 2015/340
Subtopic EQPS 3.1 — Operation and monitoring of equipment					
AFI EQPS 3.1.1	Monitor the technical integrity of the AFIO working position.	3	Notification procedures, responsibilities	AFI AFI SUR	ADC EQPS 3.1.1**
AFI EQPS 3.1.2	Operate the equipment of the AFISO working position.	3	*Optional content: flight progress board, flight data display, radio, telephone, maps and charts, strip-printer, clock, information systems, UDF/VDF*	AFI AFI SUR	ADC EQPS 3.1.2**
AFI EQPS 3.1.3	Operate the available equipment in abnormal and emergency situations	3		AFI AFI SUR	ADC EQPS 3.1.3
Subtopic EQPS 3.2 — Information systems					
AFI EQPS 3.2.1	Check the availability of information.	3		AFI AFI SUR	ADC EQPS 3.2.2
AFI EQPS 3.2.2	Obtain information from equipment.	3	*Optional content: information from wind direction indicator*	AFI AFI SUR	ADC EQPS 3.2.3

TOPIC EQPS 3 — AFIO WORKING POSITION				Rating	Ref to regulation (EU) 2015/340
AFI SUR EQPS 3.2.4	Take account of anti-incursion equipment.	2		AFI AFI SUR	ADC EQPS 3.2.4
Subtopic EQPS 3.3 — Flight data systems					
AFI EQPS 3.3.1	Use the flight data information at AFISO working position	3		AFI AFI SUR	ADC EQPS 3.3.1**

TOPIC EQPS 4 — FUTURE EQUIPMENT				Rating	Ref to regulation (EU) 2015/340
Subtopic EQPS 4.1 — New developments					
AFI EQPS 4.1.1	Recognise future developments.	1	New advanced systems *Optional content: European ATM Master Plan, European Plan for Aviation Safety*	ALL	ADC EQPS 4.1.1

TOPIC EQPS 5 — EQUIPMENT AND SYSTEMS' LIMITATIONS AND DEGRADATION				Rating	Ref to regulation (EU) 2015/340
Subtopic EQPS 5.1 — Reaction to limitations					
AFI EQPS 5.1.1	Take account of the limitations of equipment and systems.	2		ALL	ADC EQPS 5.1.1
AFI EQPS 5.1.2	Respond to technical deficiencies of the operational position	3	Notification procedures, responsibilities	ALL	ADC EQPS 5.1.2
Subtopic EQPS 5.2 — Communication equipment degradation					
AFI EQPS 5.2.1	Identify that communication equipment has degraded.	3	*Optional content: ground–air, ground– ground and landline communications*	ALL	ADC EQPS 5.2.1
AFI EQPS 5.2.2	Apply contingency procedures in the event of communication equipment degradation.	4	*Optional content: procedures for total or partial degradation of ground–air and landline communications; alternative methods of transferring data*	ALL	ADC EQPS 5.2.2
Subtopic EQPS 5.3 — Navigational equipment degradation					
AFI 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 5.3.1
AFI EQPS 5.3.2	Apply contingency procedures in the event of a navigational equipment degradation.	3	*Optional content: information to aircraft, navigational assistance, seeking assistance from adjacent units*	ALL	ADC EQPS 5.3.2

SUBJECT 9: PROFESSIONAL ENVIRONMENT

TOPIC PEN 1 — FAMILIARISATION				Rating	Ref to regulation (EU) 2015/340
Subtopic PEN 1.1 — Study visit to an aerodrome					
AFI PEN 1.1.1	Appreciate the functions and provision of an Aerodrome Flight Information Service.	3	*Optional content: study visit to an AFIS aerodrome**	AFI AFI SUR	ADC PEN 1.1.1**

TOPIC PEN 2 — AIRSPACE USERS				Rating	Ref to regulation (EU) 2015/340
Subtopic PEN 2.1 — Contributors to civil ATS operations					
AFI PEN 2.1.1	Characterise civil ATS activities at aerodrome.		*Optional content: familiarisation visits to AFIS aerodrome, TWR, APP, ACC, AIS, RCC**	AFI AFI SUR	ADC PEN 2.1.1
AFI 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	ADC PEN 2.1.2
Subtopic PEN 2.2 — Contributors to military ATS operations					
AFI PEN 2.2.1	Characterise military ATS activities.	2	*Optional content: familiarisation visits to TWR, APP, ACC, AIS, RCC, Air Defence Units*	ALL	ADC PEN 2.2.1

TOPIC PEN 3 — CUSTOMER RELATIONS				Rating	Ref to regulation (EU) 2015/340
Subtopic PEN 3.1 — Provision of services and user requirements					
AFI PEN 3.1.1	Appreciate the role of an air navigation service provider.	3	Regulation (EU) 2018/1139	ALL	ADC PEN 3.1.1
AFI PEN 3.1.2	Appreciate ATS users' requirements.	3		ALL	ADC PEN 3.1.2

TOPIC PEN 4 — ENVIRONMENTAL PROTECTION				Rating	Ref to regulation (EU) 2015/340
Subtopic PEN 4.1 — Environmental protection					
AFI 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*	AFI AFI SUR	ADC PEN 4.1.1.
AFI PEN 4.1.2	Explain the use of Collaborative Environmental Management (CEM) process at aerodromes.	2	*Optional content: European ATM Master Plan, EUROCONTROL CEM Specification*	AFI AFI SUR	ADC PEN 4.1.2

TOPIC PEN 4 — ENVIRONMENTAL PROTECTION				Rating	Ref to regulation (EU) 2015/340
AFI 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*	AFI AFI SUR	ADC PEN 4.1.3.

SUBJECT 10: ABNORMAL AND EMERGENCY SITUATIONS

TOPIC ABES 1 — ABNORMAL AND EMERGENCY SITUATIONS (ABES)				Rating	Ref to regulation (EU) 2015/340
Subtopic ABES 1.1 — Overview of ABES					
AFI 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 1.1.1
AFI ABES 1.1.2	Identify potential or actual abnormal and emergency situations.	3		ALL	ADC ABES 1.1.2
AFI 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*	AFI AFI SUR	ADC ABES 1.1.3
AFI 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 1.1.4
AFI ABES 1.1.5	Consider how the evolution of a situation may have an impact on safety.	2	*Optional content: separation, information, coordination*	ALL	ADC ABES 1.1.5

TOPIC ABES 2 — SKILLS IMPROVEMENT				Rating	Ref to regulation (EU) 2015/340
Subtopic ABES 2.1 — Communication effectiveness					
AFI 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 2.1.1
AFI ABES 2.1.2	Apply change of radiotelephony call sign.	3	Regulation (EU) No 923/2012, BL 7-14* *Optional content: ICAO Doc 4444*	ALL	ADC ABES 2.1.2
Subtopic ABES 2.2 — Avoidance of mental overload					
AFI ABES 2.2.1	Describe actions to keep the situation under control.	2	*Optional content: asking for help, task delegation, task prioritisation*	ALL	ADC ABES 2.2.1
AFI ABES 2.2.2	Organise priority of actions.	4		ALL	ADC ABES 2.2.2
AFI ABES 2.2.3	Ensure effective dissemination of information.	4	*Optional content: with an appropriate supervisor, between AFIS and ACC/ APP, with ground staff, with aerodrome management etc**	ALL	ADC ABES 2.2.3
AFI ABES 2.2.4	Consider asking for help.	2		ALL	ADC ABES 2.2.4

TOPIC ABES 2 — SKILLS IMPROVEMENT				Rating	Ref to regulation (EU) 2015/340
Subtopic ABES 2.3 — Air-ground cooperation					
AFI ABES 2.3.1	Collect appropriate information relevant to the situation.	3		ALL	ADC ABES 2.3.1
AFI ABES 2.3.2	Assist the pilot.	3	Pilot workload *Optional content: instructions, information, support, human factors, etc*	ALL	ADC ABES 2.3.2

TOPIC ABES 3 — PROCEDURES FOR ABNORMAL AND EMERGENCY SITUATIONS (ABES)				Rating	Ref to regulation (EU) 2015/340
Subtopic ABES 3.1 — Application of procedures for ABES					
AFI 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	ADC ABES 3.1.1
Subtopic ABES 3.2 — Radio failure					
AFI ABES 3.2.1	Describe the procedures to be followed by a pilot when a pilot experiences complete or partial radio failure.	2	Regulation (EU) No 923/2012, BL 7-1* *Optional content: ICAO Doc 4444, military procedures, simulator operation procedures*	ALL	ADC ABES 3.2.1
AFI 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, BL 7-1* *Optional content: prolonged loss of communication*	ALL	ADC ABES 3.2.2
Subtopic ABES 3.3 — Unlawful interference and aircraft bomb threat					
AFI ABES 3.3.1	Apply AFI procedures associated with unlawful interference and aircraft bomb threat.	3	Regulation (EU) No 923/2012, BL 7-1* *Optional content: simulator operation procedures*	ALL	ADC ABES 3.3.1**
Subtopic ABES 3.4 — Strayed or unidentified aircraft					
AFI ABES 3.4.1	Apply the procedures in the case of strayed aircraft.	3	Regulation (EU) No 923/2012, BL 7-1*	ALL	ADC ABES 3.4.1
AFI ABES 3.4.2	Apply the procedures in the case of unidentified aircraft.	3	Regulation (EU) No 923/2012, BL 7-1*	ALL	ADC ABES 3.4.2

TOPIC ABES 3 — PROCEDURES FOR ABNORMAL AND EMERGENCY SITUATIONS (ABES)				Rating	Ref to regulation (EU) 2015/340
AFI ABES 3.4.3	Provide navigational assistance to aircraft.	4	Regulation (EU) 2017/373 *Optional content: diverted aircraft, aircraft lost or unsure of position, information derived locally or from other pilots, nearest most suitable aerodrome, position information, aerodrome information, any other relevant navigational assistance, etc.**	AFI AFI SUR	ADC ABES 3.4.3
Subtopic ABES 3.5 — Runway incursion					
AFI ABES 3.5.1	Apply AFIS procedures associated with runway incursion.	3	Regulation (EU) 2017/373 *Optional content: ICAO Doc 4444*	AFI AFI SUR	ADC ABES 3.5.1**
Subtopic ABES 3.6 — Interception of civil aircraft					
AFI ABES 3.6.1	Explain the procedures in the event of interception of civil aircraft.	2	Regulation (EU) No 923/2012, BL 7-1*	ALL	ADC ABES 3.6.1

SUBJECT 11: AERODROMES

TOPIC AGA 1 — AERODROME DATA, LAYOUT AND COORDINATION				Rating	Ref to regulation (EU) 2015/340
Subtopic AGA 1.1 — Definitions					
AFI AGA 1.1.1	Define aerodrome data.	1	Regulation (EU) No 139/2014 *Optional content: aerodrome elevation, reference point, apron, movement area, manoeuvring area, hot spot*	AFI AFI SUR	ADC AGA 1.1.1
Subtopic AGA 1.2 — Coordination					
AFI 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	AFI AFI SUR	ADC AGA 1.2.1

TOPIC AGA 2 — MOVEMENT AREA				Rating	Ref to regulation (EU) 2015/340
Subtopic AGA 2.1 — Movement area					
AFI AGA 2.1.1	Describe a movement area.	2	Regulation (EU) No 139/2014	AFI AFI SUR	ADC AGA 2.1.1
AFI AGA 2.1.2	Describe the marking of obstacles and unusable or unserviceable areas.	2	Flags, signs on pavement, lights	AFI AFI SUR	ADC AGA 2.1.2
AFI 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	AFI AFI SUR	ADC AGA 2.1.3
Subtopic AGA 2.2 — Manoeuvring area					
AFI AGA 2.2.1	Describe a manoeuvring area.	2	Regulation (EU) No 139/2014	AFI AFI SUR	ADC AGA 2.2.1
AFI AGA 2.2.2	Describe a taxiway	2		AFI AFI SUR	ADC AGA 2.2.2
AFI AGA 2.2.3	Describe the daylight marking on taxiway.	2		AFI AFI SUR	ADC AGA 2.2.3
AFI AGA 2.2.4	Describe taxiway lighting	2		AFI AFI SUR	ADC AGA 2.2.4
Subtopic AGA 2.3 — Runways					
AFI AGA 2.3.1	Describe the runway.	2	Runway, runway surface, runway strip, shoulder, runway-end safety areas, clearways, stopways	AFI AFI SUR	ADC AGA 2.3.1
AFI AGA 2.3.2	Describe the instrument runway.	2	Regulation (EU) No 139/2014	AFI AFI SUR	ADC AGA 2.3.2

TOPIC AGA 2 — MOVEMENT AREA				Rating	Ref to regulation (EU) 2015/340
AFI AGA 2.3.3	Describe the non-instrument runway.	2	Regulation (EU) No 139/2014	AFI AFI SUR	ADC AGA 2.3.3
AFI AGA 2.3.4	Explain the declared distances.	2	TORA, TODA, ASDA, LDA	AFI AFI SUR	ADC AGA 2.3.4
AFI AGA 2.3.5	Explain the differences between ACN and PCN.	2	Strength of pavements	AFI AFI SUR	ADC AGA 2.3.5
AFI 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*	AFI AFI SUR	ADC AGA 2.3.6
AFI AGA 2.3.7	Describe runway lights.	2	*Optional content: colour, centre line, intensity, edge, touchdown zone, threshold, barettes*	AFI AFI SUR	ADC AGA 2.3.7
AFI AGA 2.3.8	Explain the functions of visual landing aids.	2	*Optional content: AVASI, VASI, PAPI*	AFI AFI SUR	ADC AGA 2.3.8
AFI AGA 2.3.9	Describe the approach lighting systems.	2	Centre line, cross bars, stroboscopic lights, colours, intensity and brightness	AFI AFI SUR	ADC AGA 2.3.9
AFI AGA 2.3.10	Characterise the effect of water/ice on runways.	2		AFI AFI SUR	ADC AGA 2.3.10
AFI AGA 2.3.11	Explain braking performance and methods of reporting it.	2		AFI AFI SUR	ADC AGA 2.3.11
AFI AGA 2.3.12	Explain the effect of runway visual range on aerodrome operations.	2		AFI AFI SUR	ADC AGA 2.3.12

TOPIC AGA 3 — OBSTACLES				Rating	Ref to regulation (EU) 2015/340
Subtopic AGA 3.1 — Obstacle-free airspace around aerodromes					
AFI AGA 3.1.1	Explain the necessity for establishing and maintaining an obstacle-free airspace around aerodromes.	2		AFI AFI SUR	ADC AGA 3.1.1

TOPIC AGA 4 — MISCELLANEOUS EQUIPMENT				Rating	Ref to regulation (EU) 2015/340
Subtopic AGA 4.1 — Location					
AFI 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*	AFI AFI SUR	ADC AGA 4.1.1

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Annex 3 – DK CCC FIS Initial training Phase II, Aerodrome Flight Information Instrument Surveillance Endorsement – (AFI RAD/SUR) Module 1 B

Phase II – Rating specialised training Module AFI SUR provides the Danish Common Core Content CCC Training requirements and objectives for **Aerodrome Flight Information Service Radar/Surveillance Endorsement** training.

The content of the endorsement training course is based on the assumption that the student has successfully completed the Phase I – Basic FIS Training and Phase II - Aerodrome Flight Information Service Instrument (AFI) Module 1 as a prerequisite.

Following the tabulated format of the Phase I content, the **Aerodrome Flight Information Service Radar/Surveillance Endorsement** training content has been subdivided into subjects:

1. Introduction to the Course (INTR)
2. Aviation Law (LAW)
3. Air Traffic Management (ATM)
4. Meteorology (MET)
5. Navigation (NAV)
6. Aircraft (ACFT)
7. Human Factors (HUM)
8. Equipment and Systems (EQPS)
9. Abnormal and Emergency Situations (ABES)

The order of the subjects and objectives is neither intended to convey a pedagogical sequence nor to indicate a relative level of importance.

Aerodrome Flight Information Service Radar/Surveillance Endorsement training shall as a minimum contain the following subject objectives and training objectives that are associated with the subjects, topics and subtopics:

SUBJECTS AND TRAINING OBJECTIVES

SUBJECT 1: INTRODUCTION TO THE COURSE

TOPIC INTR 1 — COURSE MANAGEMENT				Rating	Ref to regulation (EU) 2015/340
Subtopic INTR 1.1 — Course introduction					
AFI SUR INTR 1.1.1	Explain the aims and main objectives of the course.	2		ALL	ADC INTR 1.1.1
Subtopic INTR 1.2 — Course administration					
AFI SUR INTR 1.2.1	State how the course is administered.	1		ALL	ADC INTR 1.2.1
Subtopic INTR 1.3 — Study material and training documentation					
AFI SUR 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 1.3.1
AFI SUR INTR 1.3.2	Integrate appropriate information into course studies.	4	Training documentation *Optional content: supplementary information, library*	ALL	ADC INTR 1.3.2

TOPIC INTR 2 — INTRODUCTION TO THE FISO TRAINING COURSE				Rating	Ref to regulation (EU) 2015/340
Subtopic INTR 2.1 — Course content and organisation					
AFI SUR 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 2.1.1
AFI SUR INTR 2.1.2	State the subjects covered by the course and their purpose.	1		ALL	ADC INTR 2.1.2
AFI SUR INTR 2.1.3	Describe the organisation of theoretical training.	2	*Optional content: course programme*	ALL	ADC INTR 2.1.3
AFI SUR INTR 2.1.4	Describe the organisation of practical training.	2	*Optional content: PTP, simulation, briefing, debriefing, course programme*	ALL	ADC INTR 2.1.4
Subtopic INTR 2.2 — Training ethos					
AFI SUR INTR 2.2.1	Recognise the feedback mechanisms available.	1	Training progress, assessment, briefing, debriefing, learner–instructor feedback, instructor–instructor feedback	ALL	ADC INTR 2.2.1

TOPIC INTR 2 — INTRODUCTION TO THE FISO TRAINING COURSE				Rating	Ref to regulation (EU) 2015/340
Subtopic INTR 2.3 — Assessment process					
AFI SUR INTR 2.3.1	Describe the assessment process	2		ALL	ADC INTR 2.3.1

SUBJECT 2: AVIATION LAW

TOPIC LAW 1 — RULES AND REGULATIONS				Rating	Ref to regulation (EU) 2015/340
Subtopic LAW 1.1 - Licensing					
AFI SUR LAW 1.1.1	Describe the conditions which must be met for the issue and maintenance of the aerodrome flight information radar, ADS and/or surveillance rating/endorsement.	2	BL 6-71, BL 6-97*	AFI SUR	
AFI SUR LAW 1.1.2	Describe the privileges associated with the aerodrome flight information radar and/or ADS rating/endorsement	2		AFI SUR	
Subtopic LAW 1.2 — Airspace					
AFI LAW 1.2.1	Appreciate airspace classes and structure and their relevance to AFIS surveillance service.	3	SERA, BL 7-5, BL 7-6, BL 7-100*	AFI AFI SUR	ADC LAW 2.2.1**
Subtopic LAW 1.3 - Regulation					
AFI SUR LAW 1.3.1	Recognise international regulation relevant to AFIS surveillance service.	1	Regulation (EU) 2017/373, SERA	AFI SUR	
AFI SUR LAW 1.3.2	Describe the methods by which national regulations are implemented in the aerodrome flight information radar, ADS and/or surveillance endorsement	2		AFI SUR	
Subtopic LAW 1.4 - Radiotelephony					
AFI SUR LAW 1.4.1	Use correct phraseology in the provision of AFIS service with surveillance.	3	SERA, BL 7-14*	AFI SUR	

SUBJECT 3: AIR TRAFFIC MANAGEMENT

TOPIC ATM 1 - PROVISION OF AN AERODROME FLIGHT INFORMATION SERVICE				Rating	Ref to regulation (EU) 2015/340
Subtopic ATM 1.1 — Airborne traffic					
AFI SUR ATM 1.1.1	Integrate the information provided by situation displays.	4	Use, advantages, disadvantages	AFI SUR FFS	ADC ATM 10.7.6
Subtopic ATM 1.2 – Departing traffic					
AFI SUR ATM 1.2.1	Provide appropriate information derived from the situations display to departing aircraft.	4	Regulation (EU) 2017/373,	AFI SUR	

TOPIC ATM 2 — USE OF SURVEILLANCE IN FIS				Rating	Ref to regulation (EU) 2015/340
Subtopic ATM 2.1 — Surveillance service					
AFI SUR ATM 2.1.1	Explain the use of ATS surveillance systems in FIS.	2	Regulation (EU) 2017/373, BL 7-5 Information regarding conflicting traffic, suggestions, or advice regarding avoiding action, position of significant weather, advice to circumnavigate weather, assist aircraft in navigation*	AFI SUR FFS	
Subtopic ATM 2.2 — Identification					
AFI SUR ATM 2.2.1	Explain the methods and procedures for establishing identification.	2	Regulation (EU) 2017/373, BL 7-5*	AFI SUR FFS	
AFI SUR ATM 2.2.2	Apply the procedures for establishing identification.	3	Any of the ATS surveillance systems identification methods	AFI SUR FFS	
AFI SUR ATM 2.2.3	Recognise when an aircraft identification is lost or in doubt.	1	Out of surveillance coverage, loss of surveillance service *Optional content: Clutter, garbling*	AFI SUR FFS	
AFI SUR ATM 2.2.4	Appreciate the necessity to maintain identification at all times when surveillance service is to be provided.	3		AFI SUR	
AFI SUR ATM 2.2.5	Appreciate the precautions when transferring radar identification.	3	Regulation (EU) 2017/373, BL 7-5*	AFI SUR	
AFI SUR ATM 2.2.6	Respond to loss/doubt concerning identification	3		AFI SUR	

TOPIC ATM 2 — USE OF SURVEILLANCE IN FIS				Rating	Ref to regulation (EU) 2015/340
Subtopic ATM 2.3 — Level verification					
AFI SUR ATM 2.3.1	Apply methods of level verification.	3	Regulation (EU) 2017/373, BL 7-5*	AFI SUR FFS	
AFI SUR ATM 2.3.2	Ensure correct Mode-C response.	4	e.g. lowest available flight level, minimums safe altitude (MSA)	AFI SUR	
Subtopic ATM 2.4 — Position information					
AFI SUR ATM 2.4.1	Appreciate the circumstances when position information should be passed to pilots.	3	Regulation (EU) 2017/373, BL 7-5*	AFI SUR FFS	
Subtopic ATM 2.5 — Termination of service					
AFI SUR ATM 2.5.1	Appreciate the procedures applied when terminating surveillance service.	3	Regulation (EU) 2017/373, BL 7-5*	AFI SUR FFS	
Subtopic ATM 2.6 – Flight Information Service					
AFI SUR ATM 2.6.1	Provide Aerodrome Flight information Service based on surveillance derived data.	4	Regulation (EU) 2017/373	AFI SUR	
AFI SUR ATM 2.6.2	Provide traffic information based on surveillance derived data.	4	Regulation (EU) 2017/373, BL 7-5*	AFI SUR	
AFI SUR ATM 2.6.3	Provide information relevant to wake turbulence radar/surveillance separation	4	Regulation (EU) 2017/373	AFI SUR	
AFI SUR ATM 2.6.4	Provide navigational assistance based on surveillance derived data on pilot request.	4	Regulation (EU) 2017/373	AFI SUR	
Subtopic ATM 2.7 – ATC clearances and instructions					
AFI SUR ATM 2.7.1	Relay appropriate ATC clearances	4	Regulation (EU) 2017/373 e.g. climb, joining, En-Route	AFI SUR	
AFI SUR ATM 2.7.2	Relay appropriate ATC instructions	4	Regulation (EU) 2017/373 e.g. SSR code	AFI SUR	
Subtopic ATM 2.8 – Coordination					
AFI SUR ATM 2.8.1	Co-ordinate in the provision of AFIS service with surveillance.	4	Regulation (EU) 2017/373	AFI SUR	

TOPIC ATM 2 — USE OF SURVEILLANCE IN FIS				Rating	Ref to regulation (EU) 2015/340
Subtopic ATM 2.9 –Data display					
AFI SUR ATM 2.9.1	Update the traffic display to accurately reflect the situation.	3	Information displayed, strip marking procedures	AFI SUR	
AFI SUR ATM 2.9.2	Organise pertinent data on traffic display.	4		AFI SUR	
Subtopic ATM 2.10 – Traffic management					
AFI SUR ATM 2.10.1	Analyse pertinent data on traffic display.	4		AFI SUR	
AFI SUR ATM 2.10.2	Obtain information concerning the operational environment.	3	Briefing, takeover, notices, local orders, verify information	AFI SUR	
AFI SUR ATM 2.10.3	Check all relevant documentation before managing traffic.	3	e.g. briefing, NOTAM, AICs, LOAs	AFI SUR	
AFI SUR ATM 2.10.4	Provide planning, co-ordination and actions in accordance with special national legislation and procedures related to AFIS surveillance service.	4	Security, Environmental (Noise abatement, Conservation areas, Sensitive areas (hospitals, VIP residences); priority allocation; special purpose codes	AFI SUR	
AFI SUR ATM 2.10.5	Organise traffic flows and patterns to take account of airspace boundaries.	4	Civil and military, controlled/uncontrolled, Restricted, danger, prohibited, special rules if applicable. Transfer of control, transfer of communication	AFI SUR	
AFI SUR ATM 2.10.6	Organise traffic flows and patterns to take account of surveillance coverage.	4		AFI SUR	
AFI SUR ATM 2.10.7	Organise traffic flows and patterns to take account of areas of responsibility.	4		AFI SUR	
AFI SUR ATM 2.10.8	Integrate surveillance derived observations of aircraft performance control into action decisions.	4	e.g. rate of climb/descent; speed; radius of turn	AFI SUR	
AFI SUR ATM 2.10.9	Analyse the information provided by the surveillance equipment.	4	Including use, advantages, limitations	AFI SUR	

TOPIC ATM 2 — USE OF SURVEILLANCE IN FIS				Rating	Ref to regulation (EU) 2015/340
AFI SUR ATM 2.10.10	Provide actions appropriate to AFIS Surveillance service.	4	Regulation (EU) 2017/373 Civil requirements, military requirements, Areas of responsibility, sectorisation, airspace structure	AFI SUR	
AFI SUR ATM 2.10.11	Provide actions appropriate for the rules for minimum safe height and terrain clearance and unauthorised penetration of airspace.	4	Responsibility for terrain clearance; terrain clearance dimensions, Minimum safe altitudes; safe sectors, minimum flight levels	AFI SUR	
AFI SUR ATM 2.10.12	Provide the appropriate AFIS surveillance service.	4	Regulation (EU) 2017/373	AFI SUR	
AFI SUR ATM 2.10.13	Use surveillance for the provision of FIS.	3	Regulation (EU) 2017/373 information to identified aircraft concerning traffic, weather, navigation	AFI SUR	
AFI SUR ATM 2.10.14	Ensure appropriate methods to achieve safe and efficient traffic handling.	4		AFI SUR	

SUBJECT 4: METEOROLOGY

TOPIC MET 1 — METEOROLOGICAL INFORMATION				Rating	Ref to regulation (EU) 2015/340
Subtopic MET 1.1 — Meteorological hazards					
AFI SUR MET 1.1.1	Integrate surveillance derived information and advice regarding meteorological hazards where available.	4	If possible: *IMC conditions, CB activity etc.*	AFI SUR	

SUBJECT 5: NAVIGATION

TOPIC NAV 1 — MAPS AND AERONAUTICAL CHARTS				Rating	Ref to regulation (EU) 2015/340
Subtopic NAV 1.1 — Maps and charts					
AFI SUR 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*	AFI AFI SUR	ADC NAV 1.1.1
AFI SUR NAV 1.1.2	Use relevant maps and charts.	3		ALL	ADC NAV 1.1.2

SUBJECT 6: AIRCRAFT

TOPIC ACFT 1 — AIRCRAFT INSTRUMENTS				Rating	Ref to regulation (EU) 2015/340
Subtopic ACFT 1.1 — Aircraft instruments					
AFI SUR ACFT 1.1.1	Explain the operation of on-board surveillance equipment.	2	Transponders: equipment Mode A, Mode C, Mode S, ADS capability	AFI SUR FFS	ADC ACFT 1.1.3
Subtopic ACFT 1.2 — Aircraft performance					
AFI SUR ACFT 1.2.1	Integrate radar derived observation of aircraft performance into action decisions.	4	e.g. rate of climb/decent, speed, radius of turn	AFI SUR	

SUBJECT 6: HUMAN FACTORS

TOPIC HUM 1 — HUMAN MACHINE INTERACTION				Rating	Ref to regulation (EU) 2015/340
Subtopic HUM 1.1 — Automation					
AFI SUR HUM 1.1.1	Explain the reason for automation	2		AFI SUR	
AFI SUR HUM 1.1.2	Describe the constraints of automation	2		AFI SUR	
Subtopic HUM 1.2 — Situational awareness					
AFI SUR HUM 1.2.1	Recognise the consequences of a system failure in ATS	1		AFI SUR	
Subtopic HUM 1.3 — Decision-making					
AFI SUR HUM 1.3.1	Appreciate the effect of surveillance system failure on human information-processing factors on decision-making.	3	*Optional content: workload, stress, interpersonal relations, distraction, confidence*	AFI SUR	

TOPIC HUM 2 — SAFETY				Rating	Ref to regulation (EU) 2015/340
Subtopic HUM 2.1 — Safety culture					
AFI SUR HUM 2.1.1	Contribute to a positive safety culture.	2	No blame culture, just culture, reporting culture	AFI SUR	
AFI SUR HUM 2.1.2	Apply a positive and professional attitude towards the job as an Aerodrome flight information service officer.	3		AFI SUR	
AFI SUR HUM 2.1.3	Appreciate how own actions affect others (e.g. pilots, adjacent sectors)	3		AFI SUR	
AFI SUR HUM 2.1.4	Ensure professional conduct in relation to others	4	Give and take feedback in a professional manner, treat students and instructors with dignity and respect.	AFI SUR	

SUBJECT 8: EQUIPMENT AND SYSTEMS

TOPIC EQPS 1 — SURVEILLANCE SYSTEMS				Rating	Ref to regulation (EU) 2015/340
Subtopic EQPS 1.1 – Introduction to surveillance technique					
AFI SUR EQPS 1.1.1	Appreciate the different surveillance techniques	3	Non-cooperative, Cooperative, Dependent and Independent	AFI SUR	
AFI SUR EQPS 1.1.2	Explain the avionics used for the surveillance in ATM and their interdependencies	2	Transponder, GNSS, Data link, ACAS/TCAS control panel	AFI SUR	
Subtopic EQPS 1.2 – Primary surveillance radar					
AFI SUR EQPS 1.2.1	Explain the basic principles of operation, basic elements and overall architecture of the primary radar.	2		AFI SUR	
Subtopic EQPS 1.3 – Secondary surveillance radar					
AFI SUR EQPS 1.3.1	Explain the basic principles of operation, basic elements and overall architecture of the secondary radar.	2	SSR, MSSR, Mode A/C, Mode S	AFI SUR	
AFI SUR EQPS 1.3.2	Explain SSR code management.	2	Discrete, non-discrete codes, special codes, special codes, international, national, local.	AFI SUR	
Subtopic EQPS 1.4 – Other surveillance technologies					
AFI SUR EQPS 1.4.1	Explain the basic principles of operation, basic elements and overall architecture of ADS-C and ABS-B, and the difference between them.	2		AFI SUR	
AFI SUR EQPS 1.4.2	Explain the basic principles of operation, basic elements and overall architecture of MLAT and the different applications.	2	WAM and LAM	AFI SUR	
Subtopic EQPS 1.5 – System limitations					
AFI SUR EQPS 1.5.1	Take account of the limitations of systems and equipment	2		AFI SUR	
AFI SUR EQPS 1.5.2	Organise traffic flows and patterns to take account of surveillance coverage.	4		AFI SUR	
Subtopic EQPS 1.6 – Surveillance data processing					
AFI SUR EQPS 1.6.1	Describe the generic functions and architecture of the flight data processing systems.	2	Flight strip production, Flight plan data, Code/Callsign correlation, transfer of data.	AFI SUR	
AFI SUR EQPS 1.6.2	Describe the generic functions and architecture of the surveillance data processing systems.	2	Plot processing, tracking, single and multi-sensor tracking, accuracy, recording	AFI SUR	

TOPIC EQPS 1 — SURVEILLANCE SYSTEMS				Rating	Ref to regulation (EU) 2015/340
AFI SUR EQPS 1.6.3	Describe the surveillance-based monitoring functions	2	STCA, MTCD, AMAN, DMAN, MSAW, APW	AFI SUR	
AFI SUR EQPS 1.6.4	Describe information normally displayed on the surveillance display	2		AFI SUR	

TOPIC EQPS 2 — AUTOMATION IN ATS				Rating	Ref to regulation (EU) 2015/340
Subtopic EQPS 2.1 — Automatic data interchange					
AFI SUR EQPS 2.1.1	Use automatic data transfer equipment where available.	3	*Optional content: sequencing systems, automated information and coordination, OLDI*	AFI SUR FFS	ADC EQPS 2.2.1

TOPIC EQPS 3 — AFISO WORKING POSITION				Rating	Ref to regulation (EU) 2015/340
Subtopic EQPS 3.1 — Situation displays and Information systems					
AFI SUR EQPS 3.1.1	Use situation displays.	3		AFI SUR FFS	ADC EQPS 3.2.1
AFI SUR EQPS 3.1.2	Explain the use of ASMGCS.	2		AFI SUR	ADC EQPS 3.2.5
AFI SUR EQPS 3.1.3	Explain code management.	2		AFI SUR FFS	
AFI SUR EQPS 3.1.4	Allocate codes.	4		AFI SUR FFS	
AFI SUR EQPS 3.1.5	Check and maintain the integrity of the operational environment.	3	Integrity of displays, verify the information provided by displays, controller working position (CWP)	AFI SUR	
AFI SUR EQPS 3.1.6	Maintain the technical integrity of the operating position.	3	Notification procedures, responsibilities	AFI SUR	
AFI SUR EQPS 3.1.7	Operate the various items of equipment in the simulator.	3	*e.g. electronic information displays, radar displays, flight progress board, meaning of colours*	AFI SUR	

TOPIC EQPS 3 — AFISO WORKING POSITION				Rating	Ref to regulation (EU) 2015/340
AFI SUR EQPS 3.1.8	Operate surveillance equipment.	4	Switch on and adjust settings in accordance with local instructions	AFI SUR	
AFI SUR EQPS 3.1.9	Operate appropriate anticlutter devices where available.	3	If possible; *In accordance with local instruction, weather clutter, permanent echoes, unwanted signals.*	AFI SUR	

SUBJECT 9: ABNORMAL AND EMERGENCY SITUATIONS

TOPIC ABES 1 — PROCEDURES FOR ABNORMAL AND EMERGENCY SITUATIONS (ABES)				Rating	Ref to regulation (EU) 2015/340
Subtopic ABES 1.1 — Transponder failure					
AFI SUR ABES 1.1.1	Apply procedures in the event of transponder failure.	3		AFI SUR	
Subtopic ABES 1.2 — Surveillance equipment failure					
AFI SUR ABES 1.2.1	Recognise that surveillance equipment has degraded.	1	Partial power failure, loss of certain facilities, total failure	AFI SUR FFS	
AFI SUR ABES 1.2.2	Integrate remedial procedures and/or techniques	3	Inform adjacent units/sectors, inform pilots, transfer aircraft to other units, provide procedural service.	AFI SUR FFS	
AFI SUR ABES 1.2.3	Recognise surveillance data processing system degradation.	1	FDS, RDPS, Software processing of surveillance display.	AFI SUR FFS	
AFI SUR ABES 1.2.4	Integrate appropriate procedure following a processing system degradation.	3		AFI SUR FFS	
Subtopic ABES 1.3 – Unusual situations					
AFI SUR ABES 1.3.1	Assist aircraft observed to be deviating from its known intended route	3		AFI SUR	
Subtopic ABES 1.4 – Alerting service					
AFI SUR ABES 1.4.1	Provide appropriate action in abnormal situations using surveillance derived information.	4	Respond to distress and urgency messages.	AFI SUR	

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Annex 4 – DK CCC FIS Initial training Phase II, FIR Flight Information Service Procedural Rating – (FFP) Module 2.

Phase II – Rating specialised training Module FFP provides the Danish Common Core Content CCC Training requirements and objectives for **FIR Flight Information Service Procedural Rating** training.

The content of the rating training course is based on the assumption that the student has successfully completed the Phase I – Basic FIS Training, as a prerequisite.

Following the tabulated format of Phase I, **FIR Flight Information Service Procedural Rating** training content has been subdivided into subjects:

1. Introduction to the Course (INTR)
2. Aviation Law (LAW)
3. Air Traffic Management (ATM)
4. Meteorology (MET)
5. Navigation (NAV)
6. Aircraft (ACFT)
7. Human Factors (HUM)
8. Equipment and Systems (EQPS)
9. Professional Environment (PEN)
10. Abnormal and Emergency Situations (ABES)

The order of the subjects and objectives is neither intended to convey a pedagogical sequence nor to indicate a relative level of importance.

The training designer will need to know that the student has successfully completed the Phase I Course.

FIR Flight Information Service Procedural Rating training shall as a minimum contain the following subject objectives and training objectives that are associated with the subjects, topics and subtopics:

SUBJECT OBJECTIVES AND TRAINING OBJECTIVES

SUBJECT 1: INTRODUCTION TO THE COURSE

TOPIC INTR 1 — COURSE MANAGEMENT				Rating	Ref to regulation (EU) 2015/340
Subtopic INTR 1.1 — Course introduction					
FFP INTR 1.1.1	Explain the aims and main objectives of the course.	2		ALL	ACP INTR 1.1.1
Subtopic INTR 1.2 — Course administration					
FFP INTR 1.2.1	State how the course is administered.	1		ALL	ACP INTR 1.2.1
Subtopic INTR 1.3 — Study material and training documentation					
FFP 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 1.3.1
FFP INTR 1.3.2	Integrate appropriate information into course studies.	4	Training documentation *Optional content: supplementary information, library*	ALL	ACP INTR 1.3.2

TOPIC INTR 2 — INTRODUCTION TO THE FISO TRAINING COURSE				Rating	Ref to regulation (EU) 2015/340
Subtopic INTR 2.1 — Course content and organisation					
FFP 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 2.1.1
FFP INTR 2.1.2	State the subjects covered by the course and their purpose.	1		ALL	ACP INTR 2.1.2
FFP INTR 2.1.3	Describe the organisation of theoretical training.	2	*Optional content: course programme*	ALL	ACP INTR 2.1.3
FFP INTR 2.1.4	Describe the organisation of practical training.	2	*Optional content: PTP, simulation, briefing, debriefing, course programme*	ALL	ACP INTR 2.1.4
Subtopic INTR 2.2 — Training ethos					
FFP INTR 2.2.1	Recognise the feedback mechanisms available.	1	Training progress, assessment, briefing, debriefing, learner–instructor feedback, instructor–instructor feedback	ALL	ACP INTR 2.2.1
Subtopic INTR 2.3 — Assessment process					
FFP INTR 2.3.1	Describe the assessment process	2		ALL	ACP INTR 2.3.1

SUBJECT 2: AVIATION LAW

TOPIC LAW 1 — FISO LICENSING/CERTIFICATE OF COMPETENCE				Rating	Ref to regulation (EU) 2015/340
Subtopic LAW 1.1 — Privileges and conditions					
FFP LAW 1.1.1	Appreciate the conditions which shall be met to issue an FFP FIS rating.	3	BL 6-71*	FFP	ACP LAW 1.1.1**
FFP 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 1.1.2
FFP LAW 1.1.3	Explain the conditions for suspension/revocation of an FISO licence.	2	BL 6-71*	ALL	ACP LAW 1.1.3**

TOPIC LAW 2 — RULES AND REGULATIONS				Rating	Ref to regulation (EU) 2015/340
Subtopic LAW 2.1 — Reports					
FFP LAW 2.1.1	Describe the functions of, and processes for, reporting.	2	Reporting culture, mandatory and voluntary occurrence reporting forms air traffic incident report, Regulation (EU) No 376/201448, Regulation (EU) 2015/101849 *Optional content: breach of regulations, watchbook/ logbook, records, voluntary reporting*	ALL	ACP LAW 2.1.1
FFP LAW 2.1.2	Use forms for reporting.	3	Regulation (EU) No 376/2014, mandatory and voluntary occurrence reporting forms *Optional content: routine air-reports, breach of regulations, watchbook/logbook, records*	ALL	ACP LAW 2.1.2
Subtopic LAW 2.2 — Airspace					
FFP LAW 2.2.1	Appreciate airspace classes and structure and their relevance to operations using the FFP rating.	3		FFP	ACP LAW 2.2.1**
FFP 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, BL 7-1 international requirements, civil requirements, military requirements, areas of responsibility, sectorisation, national requirements**	ALL	ACP LAW 2.2.2
FFP LAW 2.2.3	Appreciate responsibility for terrain clearance.	3		ALL	ACP LAW 2.2.3

TOPIC LAW 3 — ATS SAFETY MANAGEMENT				Rating	Ref to regulation (EU) 2015/340
Subtopic LAW 3.1 — Feedback process					
FFP LAW 3.1.1	State the importance of FISO contribution to the feedback process.	1	*Optional content: voluntary reporting*	ALL	ACP LAW 3.1.1**
FFP LAW 3.1.2	Describe how reported occurrences are analysed.	2	*Optional content: Regulation (EU) No 376/2014, local procedures*	ALL	ACP LAW 3.1.2
FFP LAW 3.1.3	Name the means used to disseminate recommendations.	1	*Optional content: safety letters, safety boards web pages*	ALL	ACP LAW 3.1.3
FFP LAW 3.1.4	Appreciate the Just Culture concept.	3	Benefits, prerequisites, constraints *Optional content: Skybrary*	ALL	ACP LAW 3.1.4
Subtopic LAW 3.2 — Safety investigation					
FFP LAW 3.2.1	Describe the role and objectives of safety investigation in the improvement of safety.	2		ALL	ACP LAW 3.2.1

SUBJECT 3: AIR TRAFFIC MANAGEMENT

TOPIC ATM 1 — PROVISION OF SERVICES				Rating	Ref to regulation (EU) 2015/340
Subtopic ATM 1.1 — Flight information service (FIS)					
FFP ATM 1.1.1	Provide FIS.	4	Regulation (EU) No 923/2012, Regulation (EU) 2017/373 *Optional content: national documents*	ALL	ACP ATM 1.2.1
FFP ATM 1.1.2	Issue appropriate information concerning the position of conflicting traffic.	3	Regulation (EU) No 923/2012, Regulation (EU) 2017/373, traffic information.	FFP FFS	ACP ATM 1.2.2
FFP ATM 1.1.4	Appreciate the use of ATIS in the provision of flight information service.	3	Regulation (EU) No 923/2012	ALL	ACP ATM 1.2.3
Subtopic ATM 1.2 — Alerting service (ALRS)					
FFP ATM 1.2.1	Provide ALRS.	4	Regulation (EU) 2017/373, Regulation (EU) No 923/2012 *Optional content: national documents*	ALL	ACP ATM 1.3.1
FFP ATM 1.2.2	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	ACP ATM 1.3.2
Subtopic ATM 1.3 — ATS system capacity and air traffic flow management					
FFP ATM 1.3.1	Appreciate the impact of ATS system capacity and air traffic flow management on the FISO.	3	*Optional content: EUROCONTROL ATFCM User's Manual, FABs, FUA, free route airspace, local implementation of ATFCM principles, etc.*	FFP FFS	ACP ATM 1.4.1**
Subtopic ATM 1.4 — Airspace management (ASM)					
FFP ATM 1.4.1	Appreciate the impact of ASM on the FISO.	3	*Optional content: FABs, EUROCONTROL Specification for the application of FUA, TSAs, CDRs, CBAs, free route airspace*	FFP FFS	ACP ATM 1.5.1**
FFP ATM 1.4.2	Inform traffic of airspace restrictions and closures.	4	Real-time activation, deactivation or reallocation of airspace *Optional content: CDR, TSA, TRA, CBA**	FFP FFS	ACP ATM 1.5.2

TOPIC ATM 2 — COMMUNICATION				Rating	Ref to regulation (EU) 2015/340
Subtopic ATM 2.1 — Effective communication					
FFP ATM 2.1.1	List the communication means between FISOs and FISOs and controllers.	1	Optional content: electronic, written, verbal and non-verbal communication	ALL	ACP ATM 2.1.1**
FFP ATM 2.1.2	Select the most suitable means of communication given the situation.	5		ALL	ACP ATM 2.1.2
FFP ATM 2.1.3	Use approved phraseology.	3	Regulation (EU) No 923/2012, BL 7-5, BL 7-14* *Optional content: published national/local language phraseology*	ALL	ACP ATM 2.1.3
FFP ATM 2.1.4	Ensure effective communication.	4	Use of plain language when required, communication within the sector/working position, between the sectors/WPs/ATS units, readback/verification of readback	ALL	ACP ATM 2.1.4
FFP ATM 2.1.5	Analyse examples of pilot and FISO communication for effectiveness.	4	*Optional content: real-life recordings, situation in the simulator*	ALL	ACP ATM 2.1.5**

TOPIC ATM 3 — ATC CLEARANCES AND ATC INSTRUCTIONS				Rating	Ref to regulation (EU) 2015/340
Subtopic ATM 3.1 — ATC clearances					
FFP ATM 3.1.1	Relay appropriate ATC clearances.	3	Regulation (EU) No 923/2012, Regulation (EU) 2017/373 *Optional content: ICAO Doc 4444, national documents*	ALL	
Subtopic ATM 3.2 — ATC instructions					
FFP ATM 3.2.1	Relay appropriate ATC instructions.	3	Regulation (EU) No 923/2012, Regulation (EU) 2017/373 *Optional content: ICAO Doc 4444, national documents*	ALL	

TOPIC ATM 4 — COORDINATION				Rating	Ref to regulation (EU) 2015/340
Subtopic ATM 4.1 — Necessity for coordination					
FFP ATM 4.1.1	Identify the need for coordination.	3		ALL	ACP ATM 4.1.1

TOPIC ATM 4 — COORDINATION				Rating	Ref to regulation (EU) 2015/340
Subtopic ATM 4.2 — Tools and methods for coordination					
FFP 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	ACP ATM 4.2.1
Subtopic ATM 4.3 — Coordination procedures					
FFP ATM 4.3.1	Initiate appropriate coordination.	3	Delegation/transfer of responsibility for air–ground communication etc., Regulation (EU) 2017/373*	ALL	ACP ATM 4.3.1
FFP ATM 4.3.2	Analyse effect of coordination requested by an adjacent position/unit.	4	*Optional content: delegation/transfer of responsibility for air–ground communications etc.**	ALL	ACP ATM 4.3.2
FFP ATM 4.3.3	Select, after negotiation, an appropriate course of action.	5		ALL	ACP ATM 4.3.3
FFP ATM 4.3.4	Ensure that the agreed course of action is carried out.	4		ALL	ACP ATM 4.3.4
FFP ATM 4.3.5	Coordinate when providing FIS.	4	Regulation (EU) 2017/373 *Optional content: ICAO Doc 4444*	ALL	ACP ATM 4.3.5
FFP ATM 4.3.6	Coordinate when providing ALRS.	4	Regulation (EU) 2017/373 *Optional content: ICAO Doc 4444*	ALL	ACP ATM 4.3.6

TOPIC ATM 5 — ALTIMETRY AND LEVEL ALLOCATION				Rating	Ref to regulation (EU) 2015/340
Subtopic ATM 5.1 — Altimetry					
FFP ATM 5.1.1	Provide FIS 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					
FFP ATM 5.2.1	Provide information regarding minimum usable levels and terrain.	4	*Optional content: minimum safe altitude, terrain, transition level, minimum flight level, minimum sector altitude*	FFP	

TOPIC ATM 6 — SEPARATIONS				Rating	Ref to regulation (EU) 2015/340
Subtopic ATM 6.1 — ATC separations					
FFP ATM 6.1.1	Appreciate how separation requirements and standards in adjacent airspace and sectors impact FIS.	3	Regulation (EU) 2017/373	ALL	

TOPIC ATM 7 — AIRBORNE AND GROUND-BASED SAFETY NETS				Rating	Ref to regulation (EU) 2015/340
Subtopic ATM 7.1 — Airborne safety nets					
FFP ATM 7.1.1	Recognise the independence of ACAS advisory thresholds and ATC separation standards.	1	ICAO Doc 9863 *Optional content: Skybrary Safety Nets*	ALL	ACP ATM 7.1.1
FFP ATM 7.1.2	Describe the FISO responsibility during and following an ACAS RA reported by pilot.	2	Regulation (EU) 923/2012 *Optional content: ICAO Doc 4444, ICAO Doc 9863, Skybrary Safety Nets*	ALL	ACP ATM 7.1.2**
FFP ATM 7.1.3	Respond to pilot notification of actions based on airborne systems warnings.	3	ACAS *Optional content: TAWS, Skybrary Safety Nets*	FFP FFS	ACP ATM 7.1.3

TOPIC ATM 8 — DATA DISPLAY				Rating	Ref to regulation (EU) 2015/340
Subtopic ATM 8.1 — Data management					
FFP 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*	ALL	ACP ATM 8.1.1
FFP ATM 8.1.2	Analyse pertinent data on data displays.	4		ALL	ACP ATM 8.1.2
FFP ATM 8.1.3	Organise pertinent data on data displays.	4		ALL	ACP ATM 8.1.3
FFP ATM 8.1.4	Obtain flight plan information.	3	CPL, supplementary information. *Optional content: FPL, AFIL etc*	ALL	ACP ATM 8.1.4
FFP ATM 8.1.5	Use flight plan information	3		ALL	ACP ATM 8.1.5

TOPIC ATM 9 — OPERATIONAL ENVIRONMENT (SIMULATED)				Rating	Ref to regulation (EU) 2015/340
Subtopic ATM 9.1 — Integrity of the operational environment					
FFP 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	ACP ATM 9.1.1
FFP 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.*	FFP FFS	ACP ATM 9.1.2
Subtopic ATM 9.2 — Verification of the currency of operational procedures					
FFP ATM 9.2.1	Check all relevant documentation before managing traffic.	3	*Optional content: briefing, letters of agreement (LoAs), NOTAMs, AICs*	ALL	ACP ATM 9.2.1
FFP ATM 9.2.2	Manage traffic in accordance with a change to operational procedures.	4		FFP FFS	ACP ATM 9.2.2
Subtopic ATM 9.3 — Handover–takeover					
FFP ATM 9.3.1	Transfer information to the relieving FISO.	3		ALL	ACP ATM 9.3.1**
FFP ATM 9.3.2	Obtain information from the FISO handing over.	3		ALL	ACP ATM 9.3.2**
FFP ATM 9.3.3	List possible actions to provide a safe position handover-takeover.	1	*Optional content: rigour, preparation, overlap time.*	ALL	ACP ATM 9.3.3
FFP ATM 9.3.4	Explain consequences of a missed position handover-takeover.	2		ALL	ACP ATM 9.3.4

TOPIC ATM 10 — PROVISION OF FLIGHT INFORMATION SERVICE				Rating	Ref to regulation (EU) 2015/340
Subtopic ATM 9.1 — Integrity of the operational environment					
FFP ATM 10.1.1	Describe the division of responsibility among ATS units	2	Regulation (EU) 2017/373*	ALL	ACP ATM 10.1.1
FFP ATM 10.1.2	Describe the responsibility in regard to military traffic.	2	ICAO Doc 4444 *Optional content: ICAO Doc 9554*	ALL	ACP ATM 10.1.2
FFP ATM 10.1.3	Describe the responsibility in regard to unmanned free balloons.	2	Regulation (EU) No 923/2012, BL 7-1*	ALL	ACP ATM 10.1.3
FFP ATM 10.1.4	Interpret operational information.	5		FFS FFP	ACP ATM 10.1.4
FFP ATM 10.1.5	Organise forwarding of operational information	4	*Optional content: including the use of backup procedures.*	FFS FFP	ACP ATM 10.1.5

TOPIC ATM 10 — PROVISION OF FLIGHT INFORMATION SERVICE				Rating	Ref to regulation (EU) 2015/340
FFP ATM 10.1.6	Integrate operational information into FIS decisions.	4		FFS FFP	ACP ATM 10.1.6**
FFP ATM 10.1.7	Appreciate the influence of operational requirements.	3	*Optional content: military flying, calibration flights, aerial photography*	ALL	ACP ATM 10.1.7
FFP ATM 10.1.8	Integrate Direction Finding data into FIS.	4	*Optional content: ADF/UDF/VDF*	FFS FFP	
Subtopic ATM 10.2 — Enroute procedural FIS					
FFP ATM 10.2.1	Explain the responsibility for the provision of area procedural flight information service service.	2	Regulation (EU) 2017/373, Regulation (EU) No 923/2012 *Optional content: local/simulator operation manual*	FFP	ACP ATM 10.2.1**
FFP ATM 10.2.2	Provide planning, coordination and FIS actions appropriate to VFR and IFR traffic in VMC and IMC.	4	Regulation (EU) No 923/2012, Regulation (EU) 2017/373	FFS FFP	ACP ATM 10.2.2**
Subtopic ATM 10.3 — Traffic management process					
FFP ATM 10.3.1	Ensure that situational awareness is maintained.	4	Information gathering, scanning, traffic projection	FFP	ACP ATM 10.3.1
FFP ATM 10.3.2	Detect conflicts in time for appropriate resolution.	4		ALL	ACP ATM 10.3.2
FFP ATM 10.3.3	Identify potential solutions to achieve a safe and effective traffic flow.	3		FFS FFP	ACP ATM 10.3.3
FFP ATM 10.3.4	Evaluate possible outcomes of different planning and FIS actions.	5		ALL	ACP ATM 10.3.4**
FFP ATM 10.3.5	Select an appropriate plan in time to achieve safe traffic flow.	5		FFP FFS	ACP ATM 10.3.5
FFP ATM 10.3.6	Ensure an adequate priority of actions.	4		ALL	ACP ATM 10.3.6
FFP ATM 10.3.7	Execute the selected plan in a timely manner.	3		ALL	ACP ATM 10.3.7
FFP ATM 10.3.8	Ensure that a safe and efficient outcome is achieved.	4	Traffic monitoring, adaptability and follow-up	ALL	ACP ATM 10.3.8
Subtopic ATM 10.4 — Handling traffic					
FFP ATM 10.4.1	Manage arrivals, departures and overflights.	4	*Optional content: simulator operation procedures*	FFS FFP	ACP ATM 10.4.1
FFP ATM 10.4.2	Balance the workload against personal capacity.	5	*Optional content: prioritising solutions and actions, denying requests, asking for help**	FFS FFP	ACP ATM 10.4.2

TOPIC ATM 11 — HOLDING				Rating	Ref to regulation (EU) 2015/340
Subtopic ATM 11.1 — Holding					
FFP ATM 11.1.1	Provide information to aircraft in holding in and aircraft conflicting with a holding pattern.	4	Regulation (EU) No 923/2012, Regulation (EU) 2017/373,	FFS FFP	
FFP 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	FFS FFP	

SUBJECT 4: METEOROLOGY

TOPIC MET 1 — METEOROLOGICAL PHENOMENA				Rating	Ref to regulation (EU) 2015/340
Subtopic MET 1.1 — Meteorological phenomena					
FFP 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*	FFS FFP	ACP MET 1.1.1
FFP MET 1.1.2	Integrate data about meteorological phenomena into the provision of ATS.	4	Transmitted information, IMC conditions *Optional content: relevant meteorological phenomena**	ALL	ACP MET 1.1.2
FFP MET 1.1.3	Provide navigational assistance to circumnavigate adverse weather if requested.	3	Rerouting advice, level change, etc.	FFS FFP	ACP MET 1.1.3**

TOPIC MET 2 — SOURCES OF METEOROLOGICAL DATA				Rating	Ref to regulation (EU) 2015/340
Subtopic MET 2.1 — Sources of meteorological information					
FFP MET 2.1.1	Obtain meteorological information.	3	METAR, TAF, SIGMET, AIRMET *Optional content: AIREP/special AIREP*	FFS FFP	ACP MET 2.1.1
FFP MET 2.1.2	Decode information from meteorological data displays.	3		ALL	ACP MET 2.1.2
FFP MET 2.1.3	Relay meteorological information.	3	ICAO Doc 4444, Regulation (EU) No 923/2012, BL 7-6* *Optional content: flight information centre, adjacent ATS unit*	ALL	ACP MET 2.1.3

SUBJECT 5: NAVIGATION

TOPIC NAV 1 — MAPS AND AERONAUTICAL CHARTS				Rating	Ref to regulation (EU) 2015/340
Subtopic NAV 1.1 — Maps and charts					
FFP NAV 1.1.1	Use relevant maps and charts.	3		ALL	ACP NAV 1.1.1
FFP NAV 1.1.2	Decode symbols and information displayed on aeronautical maps and charts.	3	Enroute and Area charts *Optional content: STAR charts*	FFS FFP	ACP NAV 1.1.2

TOPIC NAV 2 — INSTRUMENT NAVIGATION				Rating	Ref to regulation (EU) 2015/340
Subtopic NAV 2.1 — Navigational systems					
FFP NAV 2.1.1	Inform traffic in case of change in the operational status of navigational systems.	3	*Optional content: limitations, availability and status of ground-based and Satellite-based systems*	FFS FFP	ACP NAV 2.1.1
FFP 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	ACP NAV 2.1.2
Subtopic NAV 2.2 — Navigational assistance					
FFP 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*	FFS FFP	ACP NAV 2.2.1 **
Subtopic NAV 2.3 — PBN applications					
FFP 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, EC PBN Implementing Rule (Commission Implementing Regulation (EU) 2018/1048), ICAO Doc 9613*	FFS FFP	ACP NAV 2.3.1
FFP NAV 2.3.2	Explain the principles and designation of navigation specifications in use.	2	Performance, functionalities, sensors *Optional content: aircrew and FISO requirements, accuracy requirements, integrity and continuity*	FFS FFP	ACP NAV 2.3.2
FFP NAV 2.3.3	Describe differences in turn performances.	2	*Optional content: fly by, fly over, FRT, ICAO Doc 4444*	FFS FFP	ACP NAV 2.3.3
FFP NAV 2.3.4	State future PBN developments.	1	A-RNP, RNP (AR) DEP *Optional content: RNP 3D, VNAV, 4D, TBO*	ALL	ACP NAV 2.3.4

SUBJECT 6: AIRCRAFT

TOPIC ACFT 1 — AIRCRAFT INSTRUMENTS				Rating	Ref to regulation (EU) 2015/340
Subtopic ACFT 1.1 — Aircraft instruments					
FFP ACFT 1.1.1	Integrate information from aircraft instruments provided by the pilot into the provision of ATS.	4		ALL	ACP ACFT 1.1.1
FFP ACFT 1.1.2	Explain the operation of aircraft radio equipment.	2	*Optional content: radios (number of), emergency radios*	ALL	ACP ACFT 1.1.2

TOPIC ACFT 2 — AIRCRAFT CATEGORIES				Rating	Ref to regulation (EU) 2015/340
Subtopic ACFT 2.1 — Wake turbulence					
FFP ACFT 2.1.1	Explain the wake turbulence effect and associated hazards to succeeding aircraft.	2		ALL	ACP ACFT 2.1.1
FFP ACFT 2.1.2	Appreciate the techniques used to prevent hazards associated with wake turbulence to succeeding aircraft.	3		ALL	ACP ACFT 2.1.2

TOPIC ACFT 3 — FACTORS AFFECTING AIRCRAFT PERFORMANCE				Rating	Ref to regulation (EU) 2015/340
Subtopic ACFT 3.1 — Climb factors					
FFP 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*	FFS FFP	ACP ACFT 3.1.1
Subtopic ACFT 3.2 — Cruise factors					
FFP ACFT 3.2.1	Integrate the influence of factors affecting aircraft during cruise.	4	Level, cruising speed, wind, mass, cabin pressurisation	FFS FFP	ACP ACFT 3.2.1
Subtopic ACFT 3.3 — Descent factors					
FFP ACFT 3.3.1	Integrate the influence of factors affecting aircraft during descent.	4	*Optional content: wind, speed, rate of descent, cabin pressurisation*	FFS FFP	ACP ACFT 3.3.1
Subtopic ACFT 3.4 — Environmental factors					
FFP ACFT 3.5.1	Appreciate the performance restrictions due to environmental considerations.	3	*Optional content: fuel-dumping, minimum flight levels, continuous descent operations*	FFS FFP	ACP ACFT 3.5.1

TOPIC ACFT 4 — AIRCRAFT DATA				Rating	Ref to regulation (EU) 2015/340
Subtopic ACFT 4.1 — Performance data					
FFP 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 Flight Information Service.	4	Performance data under a representative variety of circumstances	FFS FFP	ACP ACFT 4.1.1**

SUBJECT 7: HUMAN FACTORS

TOPIC HUM 1 — INFORMATION PROCESSING				Rating	Ref to regulation (EU) 2015/340
Subtopic HUM 1.1 — Cognition and factors influencing it					
FFP HUM 1.1.1	Describe the human information-processing model.	2	Attention, perception, memory, situational awareness, decision-making, response	ALL	ACP HUM 1.1.1
FFP HUM 1.1.2	Describe the factors which influence human information-processing	2	Confidence, stress, learning, knowledge, experience, fatigue, alcohol/drugs, distraction, interpersonal relations	ALL	ACP HUM 1.1.2
Subtopic HUM 1.2 — Situational awareness					
FFP 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	ACP HUM 1.2.1
Subtopic HUM 1.3 — Decision-making					
FFP HUM 1.3.1	Appreciate Monitor the effect of human information-processing factors on decision-making.	3	*Optional content: workload, stress, interpersonal relations, distraction, confidence*	ALL	ACP HUM 1.3.1

TOPIC HUM 2 — FACTORS AFFECTING HEALTH AND WELL-BEING				Rating	Ref to regulation (EU) 2015/340
Subtopic HUM 2.1 — Fatigue					
FFP 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	ACP HUM 2.1.1
FFP 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 2.1.2
FFP HUM 2.1.3	Describe appropriate action when recognising fatigue.	2	*Optional content: Skybrary Human Behaviour, EUROCONTROL Fatigue and sleep management*	ALL	ACP HUM 2.1.3
Subtopic HUM 2.2 — Stress					
FFP HUM 2.2.1	Recognise the effects of stress on performance.	1	Stress and its symptoms in self and in others *Optional content: Regulation (EU) 2017/373*	ALL	ACP HUM 2.2.1
FFP HUM 2.2.2	Describe appropriate action when recognising stress.	2		ALL	ACP HUM 2.2.2
FFP HUM 2.2.3	Act to reduce stress.	3		ALL	ACP HUM 2.2.3

TOPIC HUM 2 — FACTORS AFFECTING HEALTH AND WELL-BEING				Rating	Ref to regulation (EU) 2015/340
FFP HUM 2.2.4	Respond to stressful situations by offering, asking or accepting assistance.	3		ALL	ACP HUM 2.2.4
FFP HUM 2.2.5	Recognise the effect of stressful events.	1	Self and others, abnormal situations	ALL	ACP HUM 2.2.5

TOPIC HUM 3 — THREAT AND ERROR MANAGEMENT				Rating	Ref to regulation (EU) 2015/340
Subtopic HUM 3.1 — Threat and error management framework					
FFP 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 3.1.1
FFP 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 3.1.2
FFP HUM 3.1.3	Differentiate threats in ATS.	2	Internal, external, airborne, environmental *Optional content: ICAO Circular 314 –AN/178 Threat and Error Management (TEM) in Air Traffic Control*	ALL	ACP HUM 3.1.3**
FFP HUM 3.1.4	Differentiate errors in ATS.	2	Equipment, procedural, communication *Optional content: increase in traffic, changes in procedures, complexities of systems or traffic, weather, unusual occurrences*	ALL	ACP HUM 3.1.4**
FFP HUM 3.1.5	Differentiate 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 3.1.5
FFP HUM 3.1.6	Analyse examples of threat and error management in ATS.	4	Case studies *Optional content: ICAO Circular 314 –AN/178 Threat and Error Management (TEM) in Air Traffic Control*	ALL	ACP HUM 3.1.6**
Subtopic HUM 3.2 — Applied threat and error management					
FFP 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	ACP HUM 3.2.1

TOPIC HUM 3 — THREAT AND ERROR MANAGEMENT				Rating	Ref to regulation (EU) 2015/340
FFP 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 3.2.2
FFP 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	ACP HUM 3.2.3

TOPIC HUM 4 —TEAMWORK				Rating	Ref to regulation (EU) 2015/340
Subtopic HUM 4.1 — Benefits of teamwork					
FFP HUM 4.1.1	State the benefits of teamwork.	1	Increased safety, efficiency and capacity	ALL	ACP HUM 4.1.1
FFP HUM 4.1.2	List the FISO's human performance elements affected by teamwork.	1	Situational awareness, communication, decision-making, threat and error management, workload management	ALL	ACP HUM 4.1.2**
Subtopic HUM 4.2 — Conflict management					
FFP HUM 4.2.1	Identify reasons for conflict.	3		ALL	ACP HUM 4.2.1
FFP HUM 4.2.2	Describe strategies to cope with human conflicts.	2	*Optional content: in your team, in the simulator*	ALL	ACP HUM 4.2.2
FFP HUM 4.2.3	Describe actions to prevent human conflicts	2		ALL	ACP HUM 4.2.3

TOPIC HUM 5 — SYSTEMS				Rating	Ref to regulation (EU) 2015/340
Subtopic HUM 5.1 — Concept of systems in ATM/ANS					
FFP 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 5.1.1
FFP HUM 5.1.2	Describe how changes in one part of a system may impact the other parts.	2		ALL	ACP HUM 5.1.2
FFP HUM 5.1.3	Describe the role of the human in the system.	2		ALL	ACP HUM 5.1.3

TOPIC HUM 6 — COMMUNICATION				Rating	Ref to regulation (EU) 2015/340
Subtopic HUM 6.1 — Communication					
FFP HUM 6.1.1	Explain effective communication in ATS operations.	2	ICAO Doc 9868	ALL	ACP HUM 6.1.1**
FFP 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	ACP HUM 6.1.2
FFP HUM 6.1.3	Describe parameters affecting the FISO's communication competency.	2	Workload, mutual knowledge, FISO versus pilot mental picture, distractions, sound, human conflicts *Optional content: Communication between and in the team(s), in the simulator, with the pilots, instructors, coordination partners**	ALL	ACP HUM 6.1.3**
Subtopic HUM 6.2 — Effective feedback					
FFP HUM 6.2.1	Define feedback.	1		ALL	ACP HUM 6.2.1
FFP HUM 6.2.2	Explain the purpose of receiving and giving feedback and its effect on performance.	2		ALL	ACP HUM 6.2.2
FFP HUM 6.2.3	Consider the impact of communication styles on feedback and resolving conflicts.	2		ALL	ACP HUM 6.2.3
FFP HUM 6.2.4	Integrate feedback into performance.	4		ALL	ACP HUM 6.2.4

SUBJECT 8: EQUIPMENT AND SYSTEMS

TOPIC EQPS 1 — VOICE COMMUNICATIONS				Rating	Ref to regulation (EU) 2015/340
Subtopic EQPS 1.1 — Radio communications					
FFP EQPS 1.1.1	Operate two-way communication equipment.	3	Transmit/receive switches, procedures. *Optional content: frequency selection, standby equipment*	ALL	ACP EQPS 1.1.1
FFP 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 1.1.2
FFP EQPS 1.1.2	Consider radio range.	2	*Optional content: transfer to another frequency, apparent radio failure, failure to establish radio contact, frequency protection range.*	FFS FFP	ACP EQPS 1.1.2
FFP EQPS 1.1.3	Obtain and decode Direction Finding information.	3	*Optional content: ADF/UDF/VDF, QDM, QTR, QTE*	FFS FFP	
Subtopic EQPS 1.2 — Other voice communications					
FFP EQPS 1.2.1	Operate landline communications.	3	*Optional content: telephone, interphone and intercom equipment*	ALL	ACP EQPS 1.2.1

TOPIC EQPS 2 — AUTOMATION IN ATS				Rating	Ref to regulation (EU) 2015/340
Subtopic EQPS 2.1 — Aeronautical fixed telecommunication network (AFTN)					
FFP EQPS 2.1.1	Decode AFTN messages.	3	*Optional content: movement and control messages, NOTAMs, SNOWTAMs, BIRDTAMs, etc*	ALL	ACP EQPS 2.1.1
Subtopic EQPS 2.2 — Automatic data interchange					
FFP EQPS 2.2.1	Use automatic data transfer equipment where available.	3	*Optional content: automated information and coordination, OLDI*	FFP	ACP EQPS 2.2.1

TOPIC EQPS 3 — FISO WORKING POSITION				Rating	Ref to regulation (EU) 2015/340
Subtopic EQPS 3.1 — Operation and monitoring of equipment					
FFP EQPS 3.1.1	Monitor the technical integrity of the FISO working position.	3	Notification procedures, responsibilities	ALL	ACP EQPS 3.1.1**
FFP EQPS 3.1.2	Operate the equipment of the FISO 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 3.1.2**

TOPIC EQPS 3 — FISO WORKING POSITION				Rating	Ref to regulation (EU) 2015/340
FFP EQPS 3.1.3	Operate the available equipment in abnormal and emergency situations.	3		ALL	ACP EQPS 3.1.3
Subtopic EQPS 3.2 — Information systems					
FFP EQPS 3.2.1	Check the availability of information.	3		ALL	ACP EQPS 3.2.2
FFP EQPS 3.2.2	Obtain information from equipment.	3		FFS FFP	ACP EQPS 3.2.3
Subtopic EQPS 3.3 — Flight data systems					
FFP EQPS 3.3.1	Use the flight data information at FISO working position.	3		ALL	ACP EQPS 3.3.1**

TOPIC EQPS 4 — FUTURE EQUIPMENT				Rating	Ref to regulation (EU) 2015/340
Subtopic EQPS 4.1 — New developments					
FFP EQPS 4.1.1	Recognise future developments.	1	New advanced systems *Optional content: European ATM Master Plan, European Plan for Aviation Safety*	ALL	ACP EQPS 4.1.1

TOPIC EQPS 5 — EQUIPMENT AND SYSTEMS' LIMITATIONS AND DEGRADATION				Rating	Ref to regulation (EU) 2015/340
Subtopic EQPS 5.1 — Reaction to limitations					
FFP EQPS 5.1.1	Take account of the limitations of equipment and systems.	2		ALL	ACP EQPS 5.1.1
FFP EQPS 5.1.2	Respond to technical deficiencies of the operational position.	3	Notification procedures, responsibilities	ALL	ACP EQPS 5.1.2
Subtopic EQPS 5.2 — Communication equipment degradation					
FFP EQPS 5.2.1	Identify that communication equipment has degraded	3	*Optional content: ground–air and landline communications*	FFS FFP	ACP EQPS 5.2.1
FFP 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	ACP EQPS 5.2.2
Subtopic EQPS 5.3 — Navigational equipment degradation					
FFP 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 5.3.1

TOPIC EQPS 5 — EQUIPMENT AND SYSTEMS' LIMITATIONS AND DEGRADATION				Rating	Ref to regulation (EU) 2015/340
FFP 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	ACP EQPS 5.3.2

SUBJECT 9: PROFESSIONAL ENVIRONMENT

TOPIC PEN 1 — FAMILIARISATION				Rating	Ref to regulation (EU) 2015/340
Subtopic PEN 1.1 — Study visit to a flight information centre					
FFP PEN 1.1.1	Appreciate the functions and provision of a flight information service.	3	Study visit to a flight information centre*	FFS FFP	ACP PEN 1.1.1**

TOPIC PEN 2 — AIRSPACE USERS				Rating	Ref to regulation (EU) 2015/340
Subtopic PEN 2.1 — Contributors to civil ATS operations					
FFP PEN 2.1.1	Characterise civil ATS activities in area control centre	2	Study visit to a flight information centre *Optional content: familiarisation visits to AFIS; TWR, APP, AIS, RCC**	FFS FFP	ACP PEN 2.1.1
FFP 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	ACP PEN 2.1.2
Subtopic PEN 2.2 — Contributors to military ATS operations					
FFP PEN 2.2.1	Characterise military ATS activities.	2	*Optional content: familiarisation visits to AFIS, TWR, APP, ACC, AIS, RCC, Air Defence Units**	ALL	ACP PEN 2.2.1

TOPIC PEN 3 — CUSTOMER RELATIONS				Rating	Ref to regulation (EU) 2015/340
Subtopic PEN 3.1 — Provision of services and user requirements					
FFP PEN 3.1.1	Appreciate the role of an air navigation service provider	3	Regulation (EU) 2018/1139	ALL	ACP PEN 3.1.1
FFP PEN 3.1.2	Appreciate ATS users' requirements	3		ALL	ACP PEN 3.1.2

TOPIC PEN 4 — ENVIRONMENTAL PROTECTION				Rating	Ref to regulation (EU) 2015/340
Subtopic PEN 4.1 — Environmental protection					
FFP 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*	FFP	ACP PEN 4.1.1

SUBJECT 10: ABNORMAL AND EMERGENCY SITUATIONS

TOPIC ABES 1 — ABNORMAL AND EMERGENCY SITUATIONS (ABES)				Rating	Ref to regulation (EU) 2015/340
Subtopic ABES 1.1 — Overview of ABES					
FFP 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 1.1.1
FFP ABES 1.1.2	Identify potential or actual abnormal and emergency situations.	3		ALL	ACP ABES 1.1.2
FFP ABES 1.1.3	Take into account the procedures for given abnormal and emergency situations.	2	*Optional content: ICAO Doc 4444*	FFS FFP	ACP ABES 1.1.3
FFP 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 1.1.4
FFP ABES 1.1.5	Consider how the evolution of a situation may have an impact on safety.	2	*Optional content: information, coordination*	ALL	ACP ABES 1.1.5

TOPIC ABES 2 — SKILLS IMPROVEMENT				Rating	Ref to regulation (EU) 2015/340
Subtopic ABES 2.1 — Communication effectiveness					
FFP 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 2.1.1
FFP ABES 2.1.2	Apply change of radiotelephony call sign.	3	Regulation (EU) No 923/2012, BL 7-14* *Optional content: ICAO Doc 4444*	ALL	ACP ABES 2.1.2
Subtopic ABES 2.2 — Avoidance of mental overload					
FFP ABES 2.2.1	Describe actions to keep the situation under control.	2	*Optional content: sector-splitting, task delegation*	ALL	ACP ABES 2.2.1
FFP ABES 2.2.2	Organise priority of actions.	4		ALL	ACP ABES 2.2.2
FFP ABES 2.2.3	Ensure the effective dissemination of information.	4	*Optional content: between FISO´s, with the supervisor, between sectors, between ACC, APP and TWR, with ground staff, etc.**	ALL	ACP ABES 2.2.3

TOPIC ABES 2 — SKILLS IMPROVEMENT				Rating	Ref to regulation (EU) 2015/340
FFP ABES 2.2.4	Consider asking for help.	2		ALL	ACP ABES 2.2.4
Subtopic ABES 2.3 — Air-ground cooperation					
FFP ABES 2.3.1	Collect appropriate information relevant to the situation.	3		ALL	ACP ABES 2.3.1
FFP ABES 2.3.2	Assist the pilot.	3	Pilot workload *Optional content: instructions, information, support, human factors, etc*	ALL	ACP ABES 2.3.2

TOPIC ABES 3 — PROCEDURES FOR ABNORMAL AND EMERGENCY SITUATIONS (ABES)				Rating	Ref to regulation (EU) 2015/340
Subtopic ABES 3.1 — Application of procedures for ABES					
FFP 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	ACP ABES 3.1.1
Subtopic ABES 3.2 — Radio failure					
FFP ABES 3.2.1	Describe the procedures to be followed by a pilot when that pilot experiences complete or partial radio failure.	2	Regulation (EU) No 923/2012, BL 7-1* *Optional content: ICAO Doc 4444, military procedures, simulator operation procedures*	ALL	ACP ABES 3.2.1
FFP 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, BL 7-1* *Optional content: prolonged loss of communication*	ALL	ACP ABES 3.2.2
Subtopic ABES 3.3 — Unlawful interference and aircraft bomb threat					
FFP ABES 3.3.1	Apply the ATS procedures associated with unlawful interference and aircraft bomb threat.	3	Regulation (EU) No 923/2012, BL 7-1* *Optional content: simulator operation procedures*	ALL	ACP ABES 3.3.1**
Subtopic ABES 3.4 — Strayed or unidentified aircraft					
FFP ABES 3.4.1	Apply the procedures in the case of strayed aircraft.	3	Regulation (EU) No 923/2012, BL 7-1*	ALL	ACP ABES 3.4.1
FFP ABES 3.4.2	Apply the procedures in the case of unidentified aircraft.	3	Regulation (EU) No 923/2012, BL 7-1*	ALL	ACP ABES 3.4.2

TOPIC ABES 3 — PROCEDURES FOR ABNORMAL AND EMERGENCY SITUATIONS (ABES)				Rating	Ref to regulation (EU) 2015/340
Subtopic ABES 3.5 — Diversions					
FFP ABES 3.5.1	Provide navigational assistance to aircraft diverting in emergency.	4	Position information, distance, other navigational assistance *Optional content: nearest most suitable aerodrome**	FFS FFP	ACP ABES 3.5.1
Subtopic ABES 3.6 — Interception of civil aircraft					
FFS ABES 3.6.1	Explain the procedures in the event of interception of civil aircraft.	2	Regulation (EU) No 923/2012, BL 7-1*	ALL	ACP ABES 3.6.1

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Annex 5 – DK CCC FIS Initial training Phase II, FIR Flight Information Service Surveillance Rating – (FFS) Module 3.

Phase II – Rating specialised training Module FFS provides the Danish Common Core Content CCC Training requirements and objectives for **FIR Flight Information Service Surveillance Rating** training.

The content of the rating training course is based on the assumption that the student has successfully completed the Phase I – Basic FIS Training, as a prerequisite.

Following the tabulated format of Phase I, **FIR Flight Information Service Surveillance Rating** training content has been subdivided into subjects:

1. Introduction to the Course (INTR)
2. Aviation Law (LAW)
3. Air Traffic Management (ATM)
4. Meteorology (MET)
5. Navigation (NAV)
6. Aircraft (ACFT)
7. Human Factors (HUM)
8. Equipment and Systems (EQPS)
9. Professional Environment (PEN)
10. Abnormal and Emergency Situations (ABES)

The order of the subjects and objectives is neither intended to convey a pedagogical sequence nor to indicate a relative level of importance.

The training designer will need to know that the student has successfully completed the Phase I Course.

FIR Flight Information Service Surveillance Rating training shall as a minimum contain the following subject objectives and training objectives that are associated with the subjects, topics and subtopics:

SUBJECT OBJECTIVES AND TRAINING OBJECTIVES

SUBJECT 1: INTRODUCTION TO THE COURSE

TOPIC INTR 1 — COURSE MANAGEMENT				Rating	Ref to regulation (EU) 2015/340
Subtopic INTR 1.1 — Course introduction					
FFS INTR 1.1.1	Explain the aims and main objectives of the course.	2		ALL	ACS INTR 1.1.1
Subtopic INTR 1.2 — Course administration					
FFS INTR 1.2.1	State how the course is administered.	1		ALL	ACS INTR 1.2.1
Subtopic INTR 1.3 — Study material and training documentation					
FFS 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 1.3.1
FFS INTR 1.3.2	Integrate appropriate information into course studies.	4	Training documentation *Optional content: supplementary information, library*	ALL	ACS INTR 1.3.2

TOPIC INTR 2 — INTRODUCTION TO THE FISO TRAINING COURSE				Rating	Ref to regulation (EU) 2015/340
Subtopic INTR 2.1 — Course content and organisation					
FFS 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 2.1.1
FFS INTR 2.1.2	State the subjects covered by the course and their purpose.	1		ALL	ACS INTR 2.1.2
FFS INTR 2.1.3	Describe the organisation of theoretical training.	2	*Optional content: course programme*	ALL	ACS INTR 2.1.3
FFS INTR 2.1.4	Describe the organisation of practical training.	2	*Optional content: PTP, simulation, briefing, debriefing, course programme*	ALL	ACS INTR 2.1.4
Subtopic INTR 2.2 — Training ethos					
FFS INTR 2.2.1	Recognise the feedback mechanisms available.	1	Training progress, assessment, briefing, debriefing, learner–instructor feedback, instructor–instructor feedback	ALL	ACS INTR 2.2.1
Subtopic INTR 2.3 — Assessment process					
FFS INTR 2.3.1	Describe the assessment process	2		ALL	ACS INTR 2.3.1

SUBJECT 2: AVIATION LAW

TOPIC LAW 1 — FISO LICENSING/CERTIFICATE OF COMPETENCE				Rating	Ref to regulation (EU) 2015/340
Subtopic LAW 1.1 — Privileges and conditions					
FFS LAW 1.1.1	Appreciate the conditions which shall be met to issue an FFS FIS rating.	3	BL 6-71*	FFS	ACS LAW 1.1.1**
FFS 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 1.1.2
FFS LAW 1.1.3	Explain the conditions for suspension/revocation of an FISO licence.	2	BL 6-71*	ALL	ACS LAW 1.1.3**

TOPIC LAW 2 — RULES AND REGULATIONS				Rating	Ref to regulation (EU) 2015/340
Subtopic LAW 2.1 — Reports					
FFS LAW 2.1.1	Describe the functions of, and processes for, reporting.	2	Reporting culture, mandatory and voluntary occurrence reporting forms, Regulation (EU) No 376/201448, Regulation (EU) 2015/101849 *Optional content: breach of regulations, watchbook/ logbook, records, voluntary reporting*	ALL	ACS LAW 2.1.1
FFS LAW 2.1.2	Use forms for reporting.	3	Regulation (EU) No 376/2014, mandatory and voluntary occurrence reporting forms *Optional content: routine air-reports, breach of regulations, watchbook/logbook, records*	ALL	ACS LAW 2.1.2
Subtopic LAW 2.2 — Airspace					
FFS LAW 2.2.1	Appreciate airspace classes and structure and their relevance to operations using the FFS rating.	3		FFS	ACS LAW 2.2.1**
FFS 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, international requirements, civil requirements, military requirements, areas of responsibility, sectorisation, national requirements*	ALL	ACS LAW 2.2.2
FFS LAW 2.2.3	Appreciate responsibility for terrain clearance.	3		ALL	ACS LAW 2.2.3

TOPIC LAW 3 — ATS SAFETY MANAGEMENT				Rating	Ref to regulation (EU) 2015/340
Subtopic LAW 3.1 — Feedback process					
FFS LAW 3.1.1	State the importance of FISO contribution to the feedback process.	1	*Optional content: voluntary reporting*	ALL	ACS LAW 3.1.1**
FFS LAW 3.1.2	Describe how reported occurrences are analysed.	2	*Optional content: Regulation (EU) No 376/2014, local procedures*	ALL	ACS LAW 3.1.2
FFS LAW 3.1.3	Name the means used to disseminate recommendations.	1	*Optional content: safety letters, safety boards, web pages*	ALL	ACS LAW 3.1.3
FFS LAW 3.1.4	Appreciate the Just Culture concept.	3	Benefits, prerequisites, constraints *Optional content: Skybrary*	ALL	ACS LAW 3.1.4
Subtopic LAW 3.2 — Safety investigation					
FFS LAW 3.2.1	Describe the role and objectives of safety investigation in the improvement of safety.	2		ALL	ACS LAW 3.2.1

SUBJECT 3: AIR TRAFFIC MANAGEMENT

TOPIC ATM 1 — PROVISION OF SERVICES				Rating	Ref to regulation (EU) 2015/340
Subtopic ATM 1.1 — Flight information service (FIS)					
FFS ATM 1.1.1	Provide FIS.	4	Regulation (EU) No 923/2012, Regulation (EU) 2017/373 *Optional content: national documents*	ALL	ACS ATM 1.2.1
FFS ATM 1.1.2	Use an ATS surveillance system in the provision of FIS.	3	Regulation (EU) No 923/2012, Regulation (EU) 2017/373, BL 7-5, information to identified aircraft concerning: traffic, navigation.* *Optional content: weather*	FFS AFI SUR	ACS ATM 1.2.2
FFS ATM 1.1.3	Issue appropriate information concerning the position of conflicting traffic.	3	Regulation (EU) No 923/2012, Regulation (EU) 2017/373, BL 7-5, traffic information.*	FFS FFP	ACS ATM 1.2.3
FFS ATM 1.1.4	Appreciate the use of ATIS in the provision of flight information service.	3	Regulation (EU) No 923/2012	ALL	ACS ATM 1.2.4
Subtopic ATM 1.2 — Alerting service (ALRS)					
FFS ATM 1.2.1	Provide ALRS.	4	Regulation (EU) 2017/373, Regulation (EU) No 923/2012 *Optional content: national documents*	ALL	ACS ATM 1.3.1
FFS ATM 1.2.2	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 1.3.2
FFS ATM 1.2.3	Use an ATS surveillance system in the provision of ALRS	3		FFS AFI SUR	ACS ATM 1.3.3
Subtopic ATM 1.3 — ATS system capacity and air traffic flow management					
FFS ATM 1.3.1	Appreciate the impact of ATS system capacity and air traffic flow management on the FISO.	3	*Optional content: EUROCONTROL ATFCM Users Manual, FABs, FUA, free route airspace, local implementation of ATFCM principles, etc.*	FFP FFS	ACS ATM 1.4.1**
Subtopic ATM 1.4 — Airspace management (ASM)					
FFS ATM 1.4.1	Appreciate the impact of ASM on the FISO.	3	*Optional content: FABs, EUROCONTROL Specification for the application of FUA, TSAs, CDRs, CBAs, free route airspace*	FFP FFS	ACS ATM 1.5.1**

TOPIC ATM 1 — PROVISION OF SERVICES				Rating	Ref to regulation (EU) 2015/340
FFS ATM 1.4.2	Inform traffic of airspace restrictions and closures.	4	Real-time activation, deactivation or reallocation of airspace *Optional content: CDR, TSA, TRA, CBA*	FFS FFP	ACS ATM 1.5.2**

TOPIC ATM 2 — COMMUNICATION				Rating	Ref to regulation (EU) 2015/340
Subtopic ATM 2.1 — Effective communication					
FFS ATM 2.1.1	List the communication means between FISOs and FISOs and controllers.	1	*Optional content: electronic, written, verbal and non-verbal communication*	ALL	ACS ATM 2.1.1**
FFS ATM 2.1.2	Select the most suitable means of communication given the situation.	5		ALL	ACS ATM 2.1.2
FFS ATM 2.1.3	Use approved phraseology.	3	Regulation (EU) No 923/2012, BL 7-5, BL 7-14* *Optional content: published national/local language phraseology*	ALL	ACS ATM 2.1.3
FFS ATM 2.1.4	Ensure effective communication.	4	Use of plain language when required, communication within the sector/working position, between the sectors/WPs/ATS units, readback/verification of readback	ALL	ACS ATM 2.1.4
FFS ATM 2.1.5	Analyse examples of pilot and FISO communication for effectiveness.	4	*Optional content: real-life recordings, situation in the simulator*	ALL	FFS ATM 2.1.5**

TOPIC ATM 3 — ATC CLEARANCES AND ATC INSTRUCTIONS				Rating	Ref to regulation (EU) 2015/340
Subtopic ATM 3.1 — ATC clearances					
FFS ATM 3.1.1	Relay appropriate ATC clearances.	3	Regulation (EU) No 923/2012, Regulation (EU) 2017/373 *Optional content: ICAO Doc 4444, national documents*	ALL	
Subtopic ATM 3.2 — ATC instructions					
FFS ATM 3.2.1	Relay appropriate ATC instructions.	3	Regulation (EU) No 923/2012, Regulation (EU) 2017/373 *Optional content: ICAO Doc 4444, national documents*	ALL	

TOPIC ATM 4 — COORDINATION				Rating	Ref to regulation (EU) 2015/340
Subtopic ATM 4.1 — Necessity for coordination					
FFS ATM 4.1.1	Identify the need for coordination.	3		ALL	ACS ATM 4.1.1
Subtopic ATM 4.2 — Tools and methods for coordination					
FFS 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	ACS ATM 4.2.1
Subtopic ATM 4.3 — Coordination procedures					
FFS ATM 4.3.1	Initiate appropriate coordination.	3	Delegation/transfer of responsibility for air–ground communication etc., Regulation (EU) 2017/373*	ALL	ACS ATM 4.3.1
FFS ATM 4.3.2	Analyse effect of coordination requested by an adjacent position/unit.	4	*Optional content: delegation/transfer of responsibility for air–ground communications etc.**	ALL	ACS ATM 4.3.2
FFS ATM 4.3.3	Select, after negotiation, an appropriate course of action.	5		ALL	ACS ATM 4.3.3
FFS ATM 4.3.4	Ensure that the agreed course of action is carried out.	4		ALL	ACS ATM 4.3.4
FFS ATM 4.3.5	Coordinate when providing FIS.	4	Regulation (EU) 2017/373 *Optional content: ICAO Doc 4444*	ALL	ACS ATM 4.3.5
FFS ATM 4.3.6	Coordinate when providing ALRS.	4	Regulation (EU) 2017/373 *Optional content: ICAO Doc 4444*	ALL	ACS ATM 4.3.6

TOPIC ATM 5 — ALTIMETRY AND LEVEL ALLOCATION				Rating	Ref to regulation (EU) 2015/340
Subtopic ATM 5.1 — Altimetry					
FFS ATM 5.1.1	Allocate levels according to altimetry data.	4	Regulation (EU) No 923/2012, BL 7-5*	ALL	ACS ATM 5.1.1
FFS ATM 5.1.2	Provide FIS according to altimetry data.	4	*Optional content: transition level, transition altitude, transition layer, height, flight level, altitude, vertical distance to airspace boundaries*	ALL	ACS ATM 5.1.2**

TOPIC ATM 5 — ALTIMETRY AND LEVEL ALLOCATION				Rating	Ref to regulation (EU) 2015/340
Subtopic ATM 5.2 — Terrain clearance					
FFS ATM 5.2.1	Provide information regarding minimum usable levels and terrain.	4	*Optional content: minimum safe altitude, terrain, transition level, minimum flight level, minimum sector altitude**	FFS	ACS ATM 5.2.1**

TOPIC ATM 6 — SEPARATIONS				Rating	Ref to regulation (EU) 2015/340
Subtopic ATM 6.1 — ATC separations					
FFS ATM 6.1.1	Appreciate how separation requirements and standards in adjacent airspace and sectors impact FIS.	3	Regulation (EU) 2017/373	ALL	

TOPIC ATM 7 — AIRBORNE AND GROUND-BASED SAFETY NETS				Rating	Ref to regulation (EU) 2015/340
Subtopic ATM 7.1 — Airborne safety nets					
FFS ATM 7.1.1	Recognise the independence of ACAS advisory thresholds and ATC separation Standards.	1	ICAO Doc 9863 *Optional content: Skybrary Safety Nets*	ALL	ACS ATM 7.1.1
FFS ATM 7.1.2	Describe the FISO responsibility during and following an ACAS RA reported by pilot.	2	Regulation (EU) 923/2012 *Optional content: ICAO Doc 4444, ICAO Doc 9863, Skybrary Safety Nets*	ALL	ACS ATM 7.1.2**
FFS ATM 7.1.3	Respond to pilot notification of actions based on airborne systems warnings.	3	ACAS *Optional content: TAWS, Skybrary Safety Nets*	FFS	ACS ATM 7.1.3
Subtopic ATM 7.2 — Ground-based safety nets					
FFS ATM 7.2.1	Describe the FISO responsibility during and following safety net warnings.	2	Regulation (EU) 2017/373 *Optional content: ICAO Doc 4444, STCA, MSAW, APW, APM*	FFS	ACS ATM 7.2.1**
FFS ATM 7.2.2	Respond to ground-based safety net warnings.	3	*Optional content: STCA, MSAW, APW, APM*	FFS	ACS ATM 7.2.2

TOPIC ATM 8 — DATA DISPLAY				Rating	Ref to regulation (EU) 2015/340
Subtopic ATM 8.1 — Data management					
FFS 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*	ALL	ACS ATM 8.1.1

TOPIC ATM 8 — DATA DISPLAY				Rating	Ref to regulation (EU) 2015/340
FFS ATM 8.1.2	Analyse pertinent data on data displays.	4		ALL	ACS ATM 8.1.2
FFS ATM 8.1.3	Organise pertinent data on data displays.	4		ALL	ACS ATM 8.1.3
FFS ATM 8.1.4	Obtain flight plan information.	3	CPL, supplementary information *Optional content FPL, AFIL, etc.*	ALL	ACS ATM 8.1.4 **
FFS ATM 8.1.5	Use flight plan information	3		ALL	ACS ATM 8.1.5

TOPIC ATM 9 — OPERATIONAL ENVIRONMENT (SIMULATED)				Rating	Ref to regulation (EU) 2015/340
Subtopic ATM 9.1 — Integrity of the operational environment					
FFS 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 9.1.1
FFS 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.*	FFS FFP	ACS ATM 9.1.2
Subtopic ATM 9.2 — Verification of the currency of operational procedures					
FFS ATM 9.2.1	Check all relevant documentation before managing traffic.	3	*Optional content: briefing, letters of agreement (LoAs), NOTAMs, AICs*	ALL	ACS ATM 9.2.1
FFS ATM 9.2.2	Manage traffic in accordance with a change to operational procedures.	4		FFS FFP	ACS ATM 9.2.2
Subtopic ATM 9.3 — Handover–takeover					
FFS ATM 9.3.1	Transfer information to the relieving FISO.	3		ALL	ACS ATM 9.3.1**
FFS ATM 9.3.2	Obtain information from the FISO handing over.	3		ALL	ACS ATM 9.3.2**
FFS ATM 9.3.3	List possible actions to provide a safe position handover-takeover.	1	*Optional content: rigour, preparation, overlap time.*	ALL	ACS ATM 9.3.3
FFS ATM 9.3.4	Explain consequences of a missed position handover-takeover.	2		ALL	ACS ATM 9.3.4

TOPIC ATM 10 — PROVISION OF FLIGHT INFORMATION SERVICE				Rating	Ref to regulation (EU) 2015/340
Subtopic ATM 10.1 — Responsibility and processing information					
FFS ATM 10.1.1	Describe the division of responsibility among ATS units	2	Regulation (EU) 2017/373	ALL	ACS ATM 10.1.1 **
FFS ATM 10.1.2	Describe the responsibility in regard to military traffic.	2	ICAO Doc 4444 *Optional content: ICAO Doc 9554*	ALL	ACS ATM 10.1.2
FFS ATM 10.1.3	Describe the responsibility in regard to unmanned free balloons.	2	Regulation (EU) No 923/2012, BL 7-1*	ALL	ACS ATM 10.1.3
FFS ATM 10.1.4	Interpret operational information.	5		FFS FFP	ACS ATM 10.1.4
FFS ATM 10.1.5	Organise forwarding of operational information	4	*Optional content: including the use of backup procedures.*	FFS FFP	ACS ATM 10.1.5
FFS ATM 10.1.6	Integrate operational information into FIS decisions.	4		FFS FFP	ACS ATM 10.1.6**
FFS ATM 10.1.7	Appreciate the influence of operational requirements.	3	*Optional content: military flying, calibration flights, aerial photography*	ALL	ACS ATM 10.1.7
FFS ATM 10.1.8	Integrate Direction Finding data into FIS.	4	*Optional content: ADF/UDF/VDF*	FFS FFP	
Subtopic ATM 10.2 — ATS surveillance service					
FFS ATM 10.2.1	Explain the responsibility for the provision of ATS surveillance service appropriate to FFS rating.	2	Regulation (EU) 2017/373, Regulation (EU) No 923/2012, BL 7-5* *Optional content: local/simulator operation manuals*	FFS	ACS ATM 10.2.1**
FFS 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, BL 7-5*	FFS AFI SUR	ACS ATM 10.2.2
FFS ATM 10.2.3	Provide planning, coordination and FIS actions appropriate to VFR and IFR traffic in VMC and IMC.	4	Regulation (EU) No 923/2012, ICAO Annex 11, ICAO Doc 4444	FFS AFI SUR	ACS ATM 10.2.3**
FFS ATM 10.2.4	Apply the procedures for termination of ATS surveillance service.	3	Regulation (EU) 2017/373, BL 7-5* *Optional content: ICAO Doc 4444, termination or interruption of ATS surveillance service*	FFS AFI SUR	ACS ATM 10.2.4
Subtopic ATM 10.3 — Traffic management process					
FFS ATM 10.3.1	Ensure that situational awareness is maintained.	4	Information gathering, scanning, traffic projection	FFS	ACS ATM 10.3.1

TOPIC ATM 10 — PROVISION OF FLIGHT INFORMATION SERVICE				Rating	Ref to regulation (EU) 2015/340
FFS ATM 10.3.2	Detect conflicts in time for appropriate resolution.	4		ALL	ACS ATM 10.3.2
FFS ATM 10.3.3	Identify potential solutions to achieve a safe and effective traffic flow.	3		FFS FFP	ACS ATM 10.3.3
FFS ATM 10.3.4	Evaluate possible outcomes of different planning and FIS actions.	5		ALL	ACS ATM 10.3.4**
FFS ATM 10.3.5	Select an appropriate plan in time to achieve safe traffic flow.	5		FFP FFS	ACS ATM 10.3.5
FFS ATM 10.3.6	Ensure an adequate priority of actions.	4		ALL	ACS ATM 10.3.6
FFS ATM 10.3.7	Execute the selected plan in a timely manner.	3		ALL	ACS ATM 10.3.7
FFS ATM 10.3.8	Ensure that a safe and efficient outcome is achieved.	4	Traffic monitoring, adaptability and follow-up	ALL	ACS ATM 10.3.8
Subtopic ATM 10.4 — Handling traffic					
FFS ATM 10.4.1	Manage arrivals, departures and overflights.	4	*Optional content: simulator operation procedures*	FFS FFP	ACS ATM 10.4.1
FFS ATM 10.4.2	Balance the workload against personal capacity.	5	*Optional content: prioritising solutions and actions, denying requests, asking for help*	FFS FFP	ACS ATM 10.4.2

TOPIC ATM 11 — HOLDING				Rating	Ref to regulation (EU) 2015/340
Subtopic ATM 11.1 — Holding					
FFS ATM 11.1.1	Provide information to aircraft in holding in and aircraft conflicting with a holding pattern.	4	Regulation (EU) No 923/2012, Regulation (EU) 2017/373,	FFS FFP	
FFS 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	FFS FFP	ACS ATM 11.1.2

TOPIC ATM 12 — IDENTIFICATION				Rating	Ref to regulation (EU) 2015/340
Subtopic ATM 12.1 — Establishment of identification					
FFS ATM 12.1.1	Appreciate the precautions when establishing identification.	3		FFS AFI SUR	ACS ATM 12.1.1
FFS ATM 12.1.2	Identify aircraft.	3	*Optional content: PSR, SSR or ADS identification method*	FFS AFI SUR	ACS ATM 12.1.2

TOPIC ATM 12 — IDENTIFICATION				Rating	Ref to regulation (EU) 2015/340
FFS ATM 12.1.3	Apply the procedures in the case of misidentification.	3	ICAO Doc 4444, Regulation (EU) 2017/373 *Optional content: local/simulator operation manuals*	FFS AFI SUR	ACS ATM 12.1.3
Subtopic ATM 12.2 — Maintenance of identification					
FFS ATM 12.2.1	Appreciate the necessity to maintain identification.	3		FFS AFI SUR	ACS ATM 12.2.1
Subtopic ATM 12.3 — Loss of identity					
FFS 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*	FFS AFI SUR	ACS ATM 12.3.1
FFS ATM 12.3.2	Apply methods to re-establish identification.	3		FFS AFI SUR	ACS ATM 12.3.2
FFS ATM 12.3.3	Respond to loss/doubt concerning identification.	3	*Optional content: procedural service*	FFS AFI SUR	ACS ATM 12.3.3
Subtopic ATM 12.4 — Position information					
FFS ATM 12.4.1	Appreciate the circumstances when position information should be passed on to aircraft	3		FFS AFI SUR	ACS ATM 12.4.1
FFS ATM 12.4.2	State the format in which position information can be passed on to aircraft.	1	Regulation (EU) 2017/373	FFS AFI SUR	ACS ATM 12.4.2
Subtopic ATM 12.5 — Transfer of identity					
FFS ATM 12.5.1	Apply methods of transfer of identification.	3		FFS AFI SUR	ACS ATM 12.5.1
FFS ATM 12.5.2	Appreciate the precautions when transferring identification.	3		FFS AFI SUR	ACS ATM 12.5.2

SUBJECT 4: METEOROLOGY

TOPIC MET 1 — METEOROLOGICAL PHENOMENA				Rating	Ref to regulation (EU) 2015/340
Subtopic MET 1.1 — Meteorological phenomena					
FFS 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*	FFS FFP	ACS MET 1.1.1
FFS MET 1.1.2	Integrate data about meteorological phenomena into the provision of ATS.	4	Transmitted information, IMC conditions *Optional content: relevant meteorological phenomena**	ALL	ACS MET 1.1.2
FFS MET 1.1.3	Provide navigational assistance to circumnavigate adverse weather if requested.	3	Rerouting advice, level change, etc.	FFS FFP	ACS MET 1.1.3**

TOPIC MET 2 — SOURCES OF METEOROLOGICAL DATA				Rating	Ref to regulation (EU) 2015/340
Subtopic MET 2.1 — Sources of meteorological information					
FFS MET 2.1.1	Obtain meteorological information.	3	METAR, TAF, SIGMET, AIRMET *Optional content: AIREP/special AIREP*	FFS FFP	ACS MET 2.1.1
FFS MET 2.1.2	Decode information from meteorological data displays.	3		ALL	ACS MET 2.1.2
FFS MET 2.1.3	Relay meteorological information.	3	ICAO Doc 4444, Regulation (EU) No 923/2012, BL 7-6* *Optional content: flight information centre, adjacent ATS unit*	ALL	ACS MET 2.1.3

SUBJECT 5: NAVIGATION

TOPIC NAV 1 — MAPS AND AERONAUTICAL CHARTS				Rating	Ref to regulation (EU) 2015/340
Subtopic NAV 1.1 — Maps and charts					
FFS NAV 1.1.1	Use relevant maps and charts.	3		ALL	ACS NAV 1.1.1
FFS NAV 1.1.2	Decode symbols and information displayed on aeronautical maps and charts.	3	Enroute and Area charts *Optional content: STAR charts*	FFS FFP	ACS NAV 1.1.2

TOPIC NAV 2 — INSTRUMENT NAVIGATION				Rating	Ref to regulation (EU) 2015/340
Subtopic NAV 2.1 — Navigational systems					
FFS NAV 2.1.1	Inform traffic in case of change in the operational status of navigational systems.	3	*Optional content: limitations, availability and status of ground-based and Satellite-based systems*	FFS FFP	ACS NAV 2.1.1
FFS 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	ACS NAV 2.1.2
Subtopic NAV 2.2 — Navigational assistance					
FFS 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*	FFS FFP	ACS NAV 2.2.1 **
FFS NAV 2.2.2	Assist pilots with navigation when required.	3	Aircraft observed to be deviating from their known intended route, on pilots' request.	FFS	ACS NAV 2.2.2
Subtopic NAV 2.3 — PBN applications					
FFS 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, EC PBN Implementing Rule (Commission Implementing Regulation (EU) 2018/1048), ICAO Doc 9613*	FFS FFP	ACS NAV 2.3.1
FFS NAV 2.3.2	Explain the principles and designation of navigation specifications in use.	2	Performance, functionalities, sensors *Optional content: aircrew and FISO requirements, accuracy requirements, integrity and continuity*	FFS FFP	ACS NAV 2.3.2
FFS NAV 2.3.3	Describe differences in turn performances.	2	*Optional content: fly by, fly over, FRT, ICAO Doc 4444*	FFS FFP	ACS NAV 2.3.3

TOPIC NAV 2 — INSTRUMENT NAVIGATION				Rating	Ref to regulation (EU) 2015/340
FFS NAV 2.3.4	State future PBN developments.	1	A-RNP, RNP (AR) DEP *Optional content: RNP 3D, VNAV, 4D, TBO*	ALL	ACS NAV 2.3.4

SUBJECT 6: AIRCRAFT

TOPIC ACFT 1 — AIRCRAFT INSTRUMENTS				Rating	Ref to regulation (EU) 2015/340
Subtopic ACFT 1.1 — Aircraft instruments					
FFS ACFT 1.1.1	Integrate information from aircraft instruments provided by the pilot into the provision of ATS.	4		ALL	ACS ACFT 1.1.1
FFS ACFT 1.1.2	Explain the operation of aircraft radio equipment.	2	*Optional content: radios (number of), emergency radios*	ALL	ACS ACFT 1.1.2
FFS ACFT 1.1.3	Explain the operation of on-board surveillance equipment.	2	Transponders: equipment Mode A, Mode C, Mode S, ADS capability	FFS AFI SUR	ACS ACFT 1.1.3

TOPIC ACFT 2 — AIRCRAFT CATEGORIES				Rating	Ref to regulation (EU) 2015/340
Subtopic ACFT 2.1 — Wake turbulence					
FFS ACFT 2.1.1	Explain the wake turbulence effect and associated hazards to succeeding aircraft.	2		ALL	ACS ACFT 2.1.1
FFS ACFT 2.1.2	Appreciate the techniques used to prevent hazards associated with wake turbulence to succeeding aircraft.	3		ALL	ACS ACFT 2.1.2

TOPIC ACFT 3 — FACTORS AFFECTING AIRCRAFT PERFORMANCE				Rating	Ref to regulation (EU) 2015/340
Subtopic ACFT 3.1 — Climb factors					
FFS 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*	FFS FFP	ACS ACFT 3.1.1
Subtopic ACFT 3.2 — Cruise factors					
FFS ACFT 3.2.1	Integrate the influence of factors affecting aircraft during cruise.	4	Level, cruising speed, wind, mass, cabin pressurisation	FFS FFP	ACS ACFT 3.2.1
Subtopic ACFT 3.3 — Descent factors					
FFS ACFT 3.3.1	Integrate the influence of factors affecting aircraft during descent.	4	*Optional content: wind, speed, rate of descent, cabin pressurisation*	FFS FFP	ACS ACFT 3.3.1
Subtopic ACFT 3.4 — Environmental factors					
FFS ACFT 3.5.1	Appreciate the performance restrictions due to environmental considerations.	3	*Optional content: fuel-dumping, minimum flight levels, continuous descent operations*	FFS FFP	ACS ACFT 3.5.1

TOPIC ACFT 4 — AIRCRAFT DATA				Rating	Ref to regulation (EU) 2015/340
Subtopic ACFT 4.1 — Performance data					
FFS 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 Flight Information Service.	4	Performance data under a representative variety of circumstances	FFS FFP	ACS ACFT 4.1.1**

SUBJECT 7: HUMAN FACTORS

TOPIC HUM 1 — INFORMATION PROCESSING				Rating	Ref to regulation (EU) 2015/340
Subtopic HUM 1.1 — Cognition and factors influencing it					
FFS HUM 1.1.1	Describe the human information-processing model.	2	Attention, perception, memory, situational awareness, decision-making, response	ALL	ACS HUM 1.1.1
FFS HUM 1.1.2	Describe the factors which influence human information-processing	2	Confidence, stress, learning, knowledge, experience, fatigue, alcohol/drugs, distraction, interpersonal relations	ALL	ACS HUM 1.1.2
Subtopic HUM 1.2 — Situational awareness					
FFS 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	ACS HUM 1.2.1
Subtopic HUM 1.3 — Decision-making					
FFS HUM 1.3.1	Appreciate Monitor the effect of human information-processing factors on decision-making.	3	*Optional content: workload, stress, interpersonal relations, distraction, confidence*	ALL	ACS HUM 1.3.1

TOPIC HUM 2 — FACTORS AFFECTING HEALTH AND WELL-BEING				Rating	Ref to regulation (EU) 2015/340
Subtopic HUM 2.1 — Fatigue					
FFS 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 2.1.1
FFS 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 2.1.2
FFS HUM 2.1.3	Describe appropriate action when recognising fatigue.	2	*Optional content: Skybrary Human Behaviour, EUROCONTROL Fatigue and sleep management*	ALL	ACS HUM 2.1.3
Subtopic HUM 2.2 — Stress					
FFS HUM 2.2.1	Recognise the effects of stress on performance.	1	Stress and its symptoms in self and in others *Optional content: Regulation (EU) 2017/373*	ALL	ACS HUM 2.2.1
FFS HUM 2.2.2	Describe appropriate action when recognising stress.	2		ALL	ACS HUM 2.2.2
FFS HUM 2.2.3	Act to reduce stress.	3		ALL	ACS HUM 2.2.3

TOPIC HUM 2 — FACTORS AFFECTING HEALTH AND WELL-BEING				Rating	Ref to regulation (EU) 2015/340
FFS HUM 2.2.4	Respond to stressful situations by offering, asking or accepting assistance.	3		ALL	ACS HUM 2.2.4
FFS HUM 2.2.5	Recognise the effect of stressful events.	1	Self and others, abnormal situations	ALL	ACS HUM 2.2.5

TOPIC HUM 3 — THREAT AND ERROR MANAGEMENT				Rating	Ref to regulation (EU) 2015/340
Subtopic HUM 3.1 — Threat and error management framework					
FFS 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 3.1.1
FFS 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 3.1.2
FFS HUM 3.1.3	Differentiate threats in ATS.	2	Internal, external, airborne, environmental *Optional content: ICAO Circular 314 –AN/178 Threat and Error Management (TEM) in Air Traffic Control*	ALL	ACS HUM 3.1.3**
FFS HUM 3.1.4	Differentiate errors in ATS.	2	Equipment, procedural, communication *Optional content: increase in traffic, changes in procedures, complexities of systems or traffic, weather, unusual occurrences*	ALL	ACS HUM 3.1.4**
FFS HUM 3.1.5	Differentiate 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 3.1.5
FFS HUM 3.1.6	Analyse examples of threat and error management in ATS.	4	Case studies *Optional content: ICAO Circular 314 –AN/178 Threat and Error Management (TEM) in Air Traffic Control*	ALL	ACS HUM 3.1.6**
Subtopic HUM 3.2 — Applied threat and error management					
FFS 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	ACS HUM 3.2.1

TOPIC HUM 3 — THREAT AND ERROR MANAGEMENT				Rating	Ref to regulation (EU) 2015/340
FFS 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	ACS HUM 3.2.2
FFS 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	ACS HUM 3.2.3

TOPIC HUM 4 —TEAMWORK				Rating	Ref to regulation (EU) 2015/340
Subtopic HUM 4.1 — Benefits of teamwork					
FFS HUM 4.1.1	State the benefits of teamwork.	1	Increased safety, efficiency and capacity	ALL	ACS HUM 4.1.1
FFS HUM 4.1.2	List the FISO's human performance elements affected by teamwork.	1	Situational awareness, communication, decision-making, threat and error management, workload management	ALL	ACS HUM 4.1.2**
Subtopic HUM 4.2 — Conflict management					
FFS HUM 4.2.1	Identify reasons for conflict.	3		ALL	ACS HUM 4.2.1
FFS HUM 4.2.2	Describe strategies to cope with human conflicts.	2	*Optional content: in your team, in the simulator*	ALL	ACS HUM 4.2.2
FFS HUM 4.2.3	Describe actions to prevent human conflicts	2		ALL	ACS HUM 4.2.3

TOPIC HUM 5 — SYSTEMS				Rating	Ref to regulation (EU) 2015/340
Subtopic HUM 5.1 — Concept of systems in ATM/ANS					
FFS 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	ACS HUM 5.1.1
FFS HUM 5.1.2	Describe how changes in one part of a system may impact the other parts.	2		ALL	ACS HUM 5.1.2
FFS HUM 5.1.3	Describe the role of the human in the system.	2		ALL	ACS HUM 5.1.3

TOPIC HUM 6 — COMMUNICATION				Rating	Ref to regulation (EU) 2015/340
Subtopic HUM 6.1 — Communication					
FFS HUM 6.1.1	Explain effective communication in ATS operations.	2	ICAO Doc 9868	ALL	ACS HUM 6.1.1**
FFS 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 6.1.2
FFS HUM 6.1.3	Describe parameters affecting the FISO's communication competency.	2	Workload, mutual knowledge, FISO versus pilot mental picture, distractions, sound, human conflicts *Optional content: Communication between and in the team(s), in the simulator, with the pilots, instructors, coordination partners**	ALL	ACS HUM 6.1.3**
Subtopic HUM 6.2 — Effective feedback					
FFS HUM 6.2.1	Define feedback.	1		ALL	ACS HUM 6.2.1
FFS HUM 6.2.2	Explain the purpose of receiving and giving feedback and its effect on performance.	2		ALL	ACS HUM 6.2.2
FFS HUM 6.2.3	Consider the impact of communication styles on feedback and resolving conflicts.	2		ALL	ACS HUM 6.2.3
FFS HUM 6.2.4	Integrate feedback into performance.	4		ALL	ACS HUM 6.2.4

SUBJECT 8: EQUIPMENT AND SYSTEMS

TOPIC EQPS 1 — VOICE COMMUNICATIONS				Rating	Ref to regulation (EU) 2015/340
Subtopic EQPS 1.1 — Radio communications					
FFS EQPS 1.1.1	Operate two-way communication equipment.	3	Transmit/receive switches, procedures. *Optional content: frequency selection, standby equipment*	ALL	ACS EQPS 1.1.1
FFS EQPS 1.1.2	Identify indications of operational status of radio equipment.	3	*Optional content: indicator lights, serviceability displays, selector/frequency displays.*	ALL	ACS EQPS 1.1.2
FFS EQPS 1.1.2	Consider radio range.	2	*Optional content: transfer to another frequency, apparent radio failure, failure to establish radio contact, frequency protection range.*	FFS FFP	ACS EQPS 1.1.2
FFS EQPS 1.1.3	Obtain and decode Direction Finding information.	3	*Optional content: ADF/UDF/VDF, QDM, QTR, QTE*	FFS FFP	
Subtopic EQPS 1.2 — Other voice communications					
FFS EQPS 1.2.1	Operate landline communications.	3	*Optional content: telephone, interphone and intercom equipment*	ALL	ACS EQPS 1.2.1

TOPIC EQPS 2 — AUTOMATION IN ATS				Rating	Ref to regulation (EU) 2015/340
Subtopic EQPS 2.1 — Aeronautical fixed telecommunication network (AFTN)					
FFS EQPS 2.1.1	Decode AFTN messages.	3	*Optional content: movement and control messages, NOTAMs, SNOWTAMs, BIRDTAMs, etc*	ALL	ACS EQPS 2.1.1
Subtopic EQPS 2.2 — Automatic data interchange					
FFS EQPS 2.2.1	Use automatic data transfer equipment where available.	3	*Optional content: automated information and coordination, OLDI**	FFS FFP AFI SUR	ACS EQPS 2.2.1

TOPIC EQPS 3 — FISO WORKING POSITION				Rating	Ref to regulation (EU) 2015/340
Subtopic EQPS 3.1 — Operation and monitoring of equipment					
FFS EQPS 3.1.1	Monitor the technical integrity of the FISO working position.	3	Notification procedures, responsibilities	ALL	ACS EQPS 3.1.1**
FFS EQPS 3.1.2	Operate the equipment of the FISO 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 3.1.2**

TOPIC EQPS 3 — FISO WORKING POSITION				Rating	Ref to regulation (EU) 2015/340
FFS EQPS 3.1.3	Operate the available equipment in abnormal and emergency situations.	3		ALL	ACS EQPS 3.1.3
Subtopic EQPS 3.2 — Situation displays and information systems					
FFS EQPS 3.2.1	Use situation displays.	3		FFS AFI SUR	ACS EQPS 3.2.1
FFS EQPS 3.2.2	Check the availability of information.	3		FFS AFI SUR	ACS EQPS 3.2.2
FFS EQPS 3.2.3	Obtain information from equipment.	3		FFS FFP	ACS EQPS 3.2.3
Subtopic EQPS 3.3 — Flight data systems					
FFS EQPS 3.3.1	Use the flight data information at FISO working position.	3		ALL	ACS EQPS 3.3.1**
Subtopic EQPS 3.4 — Use of ATS surveillance system					
FFS EQPS 3.4.1	Use the ATS surveillance system functions.	3		FFS AFI SUR	ACS EQPS 3.4.1
FFS EQPS 3.4.2	Analyse the information provided by the ATS surveillance system.	4		FFS AFI SUR	ACS EQPS 3.4.2
FFS EQPS 3.4.3	Assign codes.	4		FFS AFI SUR	ACS EQPS 3.4.3
FFS EQPS 3.4.4	Appreciate the use of advanced surveillance technology.	3	*Optional content: Mode S, ADS-B, MLAT*	FFS AFI SUR	ACS EQPS 3.4.4
Subtopic EQPS 3.5 — Advanced systems					
FFS EQPS 3.5.1	Appreciate the use of controller–pilot data link communications when available	3		FFS	ACS EQPS 3.5.1
FFS EQPS 3.5.2	Characterise the use of information provided by advanced systems where available.	2	MTCD, AMAN, DMAN *Optional content: trajectory-based information, MONA, etc.*	FFS	ACS EQPS 3.5.2**

TOPIC EQPS 4 — FUTURE EQUIPMENT				Rating	Ref to regulation (EU) 2015/340
Subtopic EQPS 4.1 — New developments					
FFS EQPS 4.1.1	Recognise future developments.	1	New advanced systems *Optional content: European ATM Master Plan, European Plan for Aviation Safety*	ALL	ACS EQPS 4.1.1

TOPIC EQPS 5 — EQUIPMENT AND SYSTEMS' LIMITATIONS AND DEGRADATION				Rating	Ref to regulation (EU) 2015/340
Subtopic EQPS 5.1 — Reaction to limitations					
FFS EQPS 5.1.1	Take account of the limitations of equipment and systems.	2		ALL	ACS EQPS 5.1.1
FFS EQPS 5.1.2	Respond to technical deficiencies of the operational position.	3	Notification procedures, responsibilities	ALL	ACS EQPS 5.1.2
Subtopic EQPS 5.2 — Communication equipment degradation					
FFS EQPS 5.2.1	Identify that communication equipment has degraded	3	*Optional content: ground–air and landline communications*	FFS FFP	ACS EQPS 5.2.1
FFS 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	ACS EQPS 5.2.2
Subtopic EQPS 5.3 — Navigational equipment degradation					
FFS 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	ACS EQPS 5.4.1
FFS 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	ACS EQPS 5.4.2
Subtopic EQPS 5.4 — Surveillance equipment degradation					
FFS EQPS 5.4.1	Identify that surveillance equipment has degraded.	3	Partial power failure, loss of certain facilities, total failure	FFS AFI SUR	ACS EQPS 5.4.1
FFS 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.*	FFS AFI SUR	ACS EQPS 5.4.2
Subtopic EQPS 5.5 — ATS processing system degradation					
FFS EQPS 5.5.1	Identify a processing system degradation.	3	*Optional content: FDPS, SDPS, software processing of situation display.*	FFS AFI SUR	ACS EQPS 5.5.1
FFS EQPS 5.5.2	Apply contingency procedures in the event of a processing system degradation.	3		FFS AFI SUR	ACS EQPS 5.5.2

SUBJECT 9: PROFESSIONAL ENVIRONMENT

TOPIC PEN 1 — FAMILIARISATION				Rating	Ref to regulation (EU) 2015/340
Subtopic PEN 1.1 — Study visit to a flight information centre					
FFS PEN 1.1.1	Appreciate the functions and provision of an operational area control service.	3	Study visit to a flight information centre*	FFS FFP	ACS PEN 1.1.1**

TOPIC PEN 2 — AIRSPACE USERS				Rating	Ref to regulation (EU) 2015/340
Subtopic PEN 2.1 — Contributors to civil ATS operations					
FFS PEN 2.1.1	Characterise civil ATS activities in area control centre	2	Study visit to a flight information centre *Optional content: familiarisation visits to AFIS; TWR, APP, AIS, RCC**	FFS FFP	ACS PEN 2.1.1
FFS 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	ACS PEN 2.1.2
Subtopic PEN 2.2 — Contributors to military ATS operations					
FFS PEN 2.2.1	Characterise military ATS activities.	2	*Optional content: familiarisation visits to AFIS, TWR, APP, ACC, AIS, RCC, Air Defence Units**	ALL	ACS PEN 2.2.1

TOPIC PEN 3 — CUSTOMER RELATIONS				Rating	Ref to regulation (EU) 2015/340
Subtopic PEN 3.1 — Provision of services and user requirements					
FFS PEN 3.1.1	Appreciate the role of an air navigation service provider	3	Regulation (EU) 2018/1139	ALL	ACS PEN 3.1.1
FFS PEN 3.1.2	Appreciate ATS users' requirements	3		ALL	ACS PEN 3.1.2

TOPIC PEN 4 — ENVIRONMENTAL PROTECTION				Rating	Ref to regulation (EU) 2015/340
Subtopic PEN 4.1 — Environmental protection					
FFS 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, continuous descent operations (CDO), continuous climb operations (CCO), ICAO Doc 10013, operational opportunities to reduce fuel burn and emissions*	FFS	ACS PEN 4.1.1

SUBJECT 10: ABNORMAL AND EMERGENCY SITUATIONS

TOPIC ABES 1 — ABNORMAL AND EMERGENCY SITUATIONS (ABES)				Rating	Ref to regulation (EU) 2015/340
Subtopic ABES 1.1 — Overview of ABES					
FFS 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 1.1.1
FFS ABES 1.1.2	Identify potential or actual abnormal and emergency situations.	3		ALL	ACS ABES 1.1.2
FFS ABES 1.1.3	Take into account the procedures for given abnormal and emergency situations.	2	*Optional content: ICAO Doc 4444*	FFS FFP	ACS ABES 1.1.3
FFS 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 1.1.4
FFS ABES 1.1.5	Consider how the evolution of a situation may have an impact on safety.	2	*Optional content: information, coordination*	ALL	ACS ABES 1.1.5

TOPIC ABES 2 — SKILLS IMPROVEMENT				Rating	Ref to regulation (EU) 2015/340
Subtopic ABES 2.1 — Communication effectiveness					
FFS 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 2.1.1
FFS ABES 2.1.2	Apply change of radiotelephony call sign.	3	Regulation (EU) No 923/2012, BL 7-14* *Optional content: ICAO Doc 4444*	ALL	ACS ABES 2.1.2
Subtopic ABES 2.2 — Avoidance of mental overload					
FFS ABES 2.2.1	Describe actions to keep the situation under control.	2	*Optional content: sector-splitting, task delegation*	ALL	ACS ABES 2.2.1
FFS ABES 2.2.2	Organise priority of actions.	4		ALL	ACS ABES 2.2.2
FFS ABES 2.2.3	Ensure the effective dissemination of information.	4	*Optional content: between FISO´s, with the supervisor, between sectors, between ACC, APP and TWR, with ground staff, etc.**	ALL	ACS ABES 2.2.3

FFS ABES 2.2.4	Consider asking for help.	2		ALL	ACS ABES 2.2.4
Subtopic ABES 2.3 — Air–ground cooperation					
FFS ABES 2.3.1	Collect appropriate information relevant to the situation.	3		ALL	ACS ABES 2.3.1
FFS ABES 2.3.2	Assist the pilot.	3	Pilot workload *Optional content: instructions, information, support, human factors, etc*	ALL	ACS ABES 2.3.2

TOPIC ABES 3 — PROCEDURES FOR ABNORMAL AND EMERGENCY SITUATIONS (ABES)				Rating	Ref to regulation (EU) 2015/340
Subtopic ABES 3.1 — Application of procedures for ABES					
FFS 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	ACS ABES 3.1.1
Subtopic ABES 3.2 — Radio failure					
FFS ABES 3.2.1	Describe the procedures to be followed by a pilot when that pilot experiences complete or partial radio failure.	2	Regulation (EU) No 923/2012, BL 7-1* *Optional content: ICAO Doc 4444, military procedures, simulator operation procedures*	ALL	ACS ABES 3.2.1
FFS 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, BL 7-1* *Optional content: prolonged loss of communication*	ALL	ACS ABES 3.2.2
Subtopic ABES 3.3 — Unlawful interference and aircraft bomb threat					
FFS ABES 3.3.1	Apply ATS procedures associated with unlawful interference and aircraft bomb threat.	3	Regulation (EU) No 923/2012, BL 7-1* *Optional content: simulator operation procedures*	ALL	ACS ABES 3.3.1**
Subtopic ABES 3.4 — Strayed or unidentified aircraft					
FFS ABES 3.4.1	Apply the procedures in the case of strayed aircraft.	3	Regulation (EU) No 923/2012, BL 7-1*	ALL	ACS ABES 3.4.1
FFS ABES 3.4.2	Apply the procedures in the case of unidentified aircraft.	3	Regulation (EU) No 923/2012, BL 7-1*	ALL	ACS ABES 3.4.2
Subtopic ABES 3.5 — Diversions					
FFS ABES 3.5.1	Provide navigational assistance to aircraft diverting in emergency.	4	Position information, distance, other navigational assistance *Optional content: nearest most suitable aerodrome*	FFS FFP	ACS ABES 3.5.1
Subtopic ABES 3.6 — Transponder failure					
FFS 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*	FFS AFI SUR	ACS ABES 3.6.1

TOPIC ABES 3 — PROCEDURES FOR ABNORMAL AND EMERGENCY SITUATIONS (ABES)				Rating	Ref to regulation (EU) 2015/340
Subtopic ABES 3.7 — Interception of civil aircraft					
FFS ABES 3.7.1	Explain the procedures in the event of interception of civil aircraft.	2	Regulation (EU) No 923/2012, BL 7-1*	ALL	ACS ABES 3.7.1