

Training Catalogue



Ab-initio air traffic controllers | ATSEP | Development & continuation | Safety management | Human factors | English Proficiency



DFS Deutsche Flugsicherung



DFS Aviation Services



The DFS Air Navigation Services Academy	5	Team resource management facilitator	26
The DFS Academy: Your partner in training	6	Critical Incident Stress Management peer	27
Our training solutions	7	Language competence assessor	28
Highly-qualified trainers	8	Supervisor qualification	28
Ideal training infrastructure	8	Emergency training and refresher	29
Leisure time on our campus	8	Handling of operational military traffic	30
Our location	8	Multi-runway operations	30
Contact us	10	Radiotelephony procedures	31
		Aviation English	32
		Instrument flight procedures design PANSOPS –	
		Basic course	32
Air traffic controller courses			
(EUROCONTROL Common Core Content)	11	Safety management and human factors courses	33
Basic course	12	Fundamentals of safety management in ATM (Module 1)	34
Tower rating course (ADI+RAD+GMS)	12	Safety assessment for changes in ATM (Module 2)	35
Tower radar course (RAD+GMS)	13	Moderating and facilitating safety assessment	
Rating course – Approach control surveillance (APS)	13	workshops (Module 3)	36
Rating course – Area control surveillance (ACS)	14	Safety assessment for decision-makers (Module 4)	36
		ATM occurrence investigation (Module 5)	37
Air traffic safety electronics personnel courses	17	ATM technical safety occurrence investigation	
Basic course	18	(Module 6)	38
Qualification – Shared course	18	Occurrence reporting and safety promotion (Module 7)	38
Qualification – Communication course	19	Team resource management (Module 8)	39
Qualification – Navigation course	19	Human factors in ATM projects (Module 9)	39
Qualification – Surveillance course	20	Training packages	40
Qualification – Data processing course	20		
Qualification – System monitoring and control			
(SMC) course	21	Other services	41
		Selection	42
Development and continuation training courses	23	English proficiency assessment	42
On-the-job training (OJT) instructor qualification			
and refresher	24		
Assessor qualification	24		
Examiner qualification	25		
Classroom teaching techniques	25		
Emergency training instructor	26		

www.training.dfs.eu



The DFS Academy: Your partner in training

Our training solutions

Highly-qualified trainers

Ideal training infrastructure

Leisure time on our campus

Our location

Contact us

The DFS Air Navigation Services Academy

6 The DFS Air Navigation Services Academy

The DFS Academy: Your partner in training

Air navigation service providers are experiencing a number of challenges. The challenge of handling more traffic while maintaining a high level of safety. The challenge of optimising their cost basis in order to fulfil performance targets.

DFS Deutsche Flugsicherung, the German air navigation service provider, and its academy can provide your organisation with the training resources it needs to manage these challenges in the most efficient and cost-effective manner.

After all, air traffic controllers bear the highest responsibility. Excellent training is the prerequisite to prepare them for this special mission. DFS has been offering and conducting training of air navigation services personnel for more than 40 years. In Germany, our 2,000 controllers coordinate about three million aircraft movements every year and up to 10,000 flights every day. This makes Germany the country with the highest traffic volume in Europe. Based on this experience, the DFS Air Navigation Services Academy has become one of the largest training centres for air navigation services personnel in the world.

DFS also offers its training solutions to external customers. A realistic training environment, modern training methods, state-of-the-art simulators and multimedia technology are the features our customers can expect at the DFS Air Navigation Services Academy, located on the DFS campus in Langen, close to the city of Frankfurt. In addition, our experts have conducted various training projects directly at our customers' facilities. Our product portfolio is tailored to their requirements. We have conducted training courses for civil and military air navigation services organisations around the world. Future air traffic controllers, air navigation services technicians, AIS briefing officers and air traffic safety electronics personnel benefit from our wealth of experience.

Our courses comply with the guidelines of ICAO Trainair Plus and training objectives of the EUROCONTROL Common Core Content specification. The DFS Academy is certified as a recognised provider for initial as well as continuation and development training of air traffic controllers according to the CCC and EU Regulation CR (EU) 2015/340.



Our training solutions

The DFS training portfolio covers the whole process chain spanning recruitment, initial training, unit training as well as continuation and development training. As the programme has been jointly developed by training experts and experienced operations personnel, the link between theory and practice, institutional and operational training is ensured. Our approach is modular, DFS can tailor every training course to the specific requirements of the customer. Local air-spaces, traffic complexity, procedures and system configurations can be integrated into the programme. Combinations of different courses are also possible.

Initial training

The DFS Academy offers a comprehensive range of products within the scope of initial training. Course participants include air traffic control personnel as well as aeronautical information experts, air traffic flow management and flight data handling staff, flight information experts and air traffic safety electronics personnel.

These courses can be customised to your requirements. For example, aviation English, national aviation law or other additional subjects as well as customer-oriented simulation procedures can be added on request. Examinations can also be adapted to national requirements.

For air traffic safety electronics personnel (ATSEP), DFS offers the following courses according to the EUROCONTROL specification:

- Basic course
- Qualification – Shared course
- Qualification – Communication course
- Qualification – Navigation course
- Qualification – Surveillance course
- Qualification – Data processing course
- Qualification – System monitoring and control

Development and continuation training

Developing and maintaining the competence of their personnel in the long term is a central requirement for all air navigation services organisations. DFS offers the following courses for periodic refresher and emergency training for air traffic controllers:

- Courses for radar and aerodrome controllers to practise handling emergencies and unusual occurrences in complex situations
- Courses on applying military procedures, flexible use of airspace, low visibility and air traffic flow management procedures, multi-runway operations, airspace design as well as radiotelephony procedures
- Consultancy services concerning your refresher course

Instructors and examiners play an important role in the rating process of future air traffic controllers and in assessing operational competence throughout their career. DFS provides the following courses for instructors and examiners:

- OJT and classroom instructor qualifications as basic and refresher courses
- Examiner qualifications
- Assessors for operational competence

Additional courses comprise:

- English language courses, including phraseology training

Please note:

The course contents described in this brochure are subject to change. Please contact us for the most recent information and course dates.

Highly-qualified trainers

In safety-relevant industries, experience in operations is a very important asset which is passed on to new trainees through training.

The trainers and guest teachers at DFS Academy are highly qualified. They draw on their operational background and their familiarity with complex airspaces, busy airports and relevant procedures to ensure participants reach their learning objectives. They combine this practical know-how with refined training methods, including

standardised training documents and a large number of practical exercises.

Another important group of our staff is the military air traffic control experts, who played an integral role in developing the concept of civil-military integration in Germany into an efficient and integrated system.

Ideal training infrastructure

The DFS Academy has the ideal infrastructure for conducting successful training courses. Thirty classrooms and four conference rooms are available for theory classes. In addition, an auditorium for large-scale events is also available. All rooms are equipped with modern multi-media equipment. A computer-based training studio, three basic skills trainers and three computer rooms for self-study and practical classes are also available. Function rooms and training systems designed for flight data specialists and AIS briefing officers and for technical training as well as two language and radiotelephony laboratories complete the training infrastructure.

State-of-the-art simulators

To develop and maintain high-quality air traffic management skills, students need a modern and powerful simulator infrastructure for their practical training. DFS operates one of the largest and most advanced simulation facilities in Europe, consisting of radar and tower simulators as well as flight simulators.

The DFS en-route simulator NEWSIM offers both trainees and experienced air traffic controllers an environment that is virtually identical to the one in control centres. Realistic training of all procedures applied in approach and area control can be conducted. This simulator is also used for emergency training courses together with Lufthansa German Airlines.

Current and future tower controllers use the tower simulator TOSIM for practical exercises. The real-time simulation system provides a 360° panorama in the 3-D version and a bird's-eye view in the 2-D units. Exercises can be adapted by varying the volume of traffic and time of day as well as by changing the visual, lighting and weather conditions. The realistic view of the simulated airport, accurate aircraft motions and an accurate reproduction of actual working positions significantly improve the quality and efficiency of all types of training.

Our location

The DFS Academy is located in Langen, a pleasant town between the cities of Frankfurt and Darmstadt. The cities are part of the vibrant Frankfurt Rhine-Main Region in the centre of Europe, offering a wide variety of cultural activities. The two cities can be directly

reached from the DFS campus by commuter train in less than fifteen minutes from the station located close to the DFS campus. Frankfurt Airport, continental Europe's busiest airport, is approximately 18 km away from the DFS campus.





Contact us

For additional information on our portfolio, to book courses or for customised training packages, please call or write to us at:

DFS Deutsche Flugsicherung GmbH
Air Navigation Services Academy
Account Management
Am DFS-Campus 4
63225 Langen
Germany

T: +49 (0)6103 3748-166
F: +49 (0)6103 3748-200
E-mail: training@dfs-as.aero

Basic course

Tower rating course (ADI, RAD, GMS)

Tower radar course (RAD, GMS)

Rating course – Approach control surveillance (APS)

Rating course – Area control surveillance (ACS)

12 Air traffic controller courses (Common Core Content)

Basic course

Course objectives

At the end of the course, participants will possess the fundamental knowledge, skills and behaviours needed to progress to procedural, radar or aerodrome control rating training. Participants will understand which elements comprise a safe and expeditious ATM service and will be able to:

- Apply basic operational procedures
- Provide basic separation procedures

Course content

Based on the Common Core Content guidelines, the course covers the following subjects:

Introduction	Aviation law
Operational procedures	Meteorology
Navigation	Aircraft and principles of flight
Human performance	Equipment

To ensure that the theory covered in the classroom can be applied in real-world situations, theory classes are combined with practical exercises. This includes intensive training of air traffic management tasks at state-of-the-art simulators, where students can experience the interconnection of the different elements of air traffic control in a realistic environment.

Who should attend

Individuals who want to become air traffic controllers

Prerequisite

Participants must have successfully passed a selection test for air traffic controller training.

Course length

16 weeks

Additional remarks

Simulation is based on standard airspace/airport.
Individual airspaces/airports on request.

How to book

If you would like to receive more information about this course, please contact our Academy team (see page 10).

This course complies with the "EUROCONTROL Specification for the ATCO Common Core Content Initial Training". CR (EU) 2015/340

Tower rating course (ADI+RAD+GMS)

Course objectives

At the end of the course, the participants will possess the knowledge, skills and behaviours needed to commence on-the-job training leading to an ADI rating including the endorsements for the use of radar (RAD) and ground movement surveillance (GMS). Participants will be able to apply operational procedures to aerodrome traffic in accordance with VFR and IFR.

Course content

This course deepens the knowledge of the following subjects and focuses in particular on the specific context of aerodrome control:

Aviation law	Air traffic management
Meteorology	Navigation
Aircraft	Human factors
Equipment and systems	Unusual/emergency situations
Degraded systems capability	Aerodromes

Practical exercises follow the theory modules throughout the course to ensure that the theory covered in the classroom can be applied in real-world situations. This includes practising aerodrome control procedures in the DFS tower simulator.

Who should attend

Individuals who want to become aerodrome controllers at controlled aerodromes and will use surveillance radar equipment in the provision of aerodrome control

Prerequisite

Participants must have successfully passed a selection test for air traffic controllers and completed a CCC Basic Course.

Course length

12 weeks

Additional remarks

Simulation is based on standard airspace/airport.
Individual airspaces/airports on request.

How to book

If you would like to receive more information about this course, please contact our Academy team (see page 10).

This course complies with the "EUROCONTROL Specification for the ATCO Common Core Content Initial Training". CR (EU) 2015/340

*course

Tower radar course (RAD+GMS)

Course objectives

At the end of the course, the participants will possess the knowledge, skills and behaviours needed to commence on-the-job training leading to ADI endorsements for the use of radar (RAD) and ground movement surveillance (GMS) equipment as information sources.

Course content

In addition to classroom lessons on air traffic management and procedures for unusual and emergency situations, the course also has a large number of practical exercises. These include practising aerodrome control procedures in the DFS tower simulator.

Who should attend

Students or aerodrome controllers who will use surveillance radar equipment in the provision of aerodrome control

Prerequisite

Participants must have successfully completed a CCC ADI rating course or be rated aerodrome controllers.

Course length

2 weeks

Additional remarks

Simulation is based on standard airspace/airport.
Individual airspaces/airports on request.

How to book

If you would like to receive more information about this course, please contact our Academy team (see page 10).



Rating course – Approach control surveillance (APS)

Course objectives

At the end of the course, the participants will possess the knowledge, skills and behaviours needed to commence on-the-job training leading to an APS rating.

Course content

The course covers the following subjects:

Aviation law	Air traffic management
Meteorology	Navigation
Aircraft	Human factors
Equipment and systems	Unusual/emergency situations
Degraded systems capability	Aerodromes

The training has a strong focus on practical exercises.

Who should attend

Individuals who want to provide control and other ATM services in approach areas

Prerequisite

Participants must have successfully passed a selection for air traffic controllers and completed a CCC basic course.

Course length

17 weeks (may vary relative to number of students)

Additional remarks

Simulation is based on standard airspace/airport.
Individual airspaces/airports on request.

How to book

If you would like to receive more information about this course, please contact our Academy team (see page 10).

This course complies with the "EUROCONTROL Specification for the ATCO Common Core Content Initial Training". The course can be combined with an ACS rating and/or a TCL endorsement course, which will shorten the overall course duration.

14 Air traffic controller courses (Common Core Content)

Rating course – Area control surveillance (ACS)

Course objectives

At the end of the course, participants will possess the knowledge, skills and behaviours needed to commence on-the-job training leading to an ACS rating. Participants will be able to provide ATM service with the use of system-based radar as an executive or planner controller in a complex environment.

Course content

The training has a strong focus on practical exercises. The first part of the course consists of a combination of theory lessons with associated practical exercises and interactive computer-based training. The second part of the course focuses on daily simulation sessions leading to competence within a highly complex multi-sector operation using very advanced ATM tools.

The course covers the following subjects:

- Aviation law
- Air traffic management
- Meteorology
- Navigation
- Aircraft
- Human factors
- Equipment and very advanced trajectory-based ATM systems
- Unusual/emergency situations
- Degraded systems capability

Content may be subject to revision, depending on the latest developments in the CCC and licensing.

Who should attend

Individuals who want to provide appropriate ATM and control service to air traffic in control areas

Prerequisite

Participants must have successfully passed a selection test for air traffic controllers and completed a CCC basic course.

Course length

17 weeks (may vary relative to number of students)

Additional remarks

Simulation is based on standard airspace/airport.
Individual airspaces/airports on request.

How to book

If you would like to receive more information about this course, please contact our Academy team (see page 10).

This course complies with the "EUROCONTROL Specification for the ATCO Common Core Content Initial Training". The course can be combined with an APS rating and/or a TCL endorsement course, which will shorten the overall course duration.



www.training.dfs.eu



Basic course

Qualification – Shared course

Qualification – Communication course

Qualification – Navigation course

Qualification – Surveillance course

Qualification – Data processing course

Qualification – System monitoring and control (SMC) course

18 Air traffic safety electronics personnel courses

Basic course

Course objectives

At the end of the course, the participants will possess fundamental knowledge of the CNS/ATM environment applicable to technical personnel (e.g. project staff) as well as to all ATSEP maintaining CNS/ATM systems or equipment.

Course content

The course is divided into theory lessons and a practical part with excursions to typical CNS/ATM systems and equipment.

The course covers the following Common Core Content (CCC) subjects:

- Induction (IND)
- Air traffic familiarisation (ATF)
- Aeronautical information services (AIS)
- Meteorology (MET)
- Communications (COM)
- Navigation (NAV)
- Surveillance (SUR)
- Data processing (DP)
- System monitoring and control (SMC)
- Maintenance procedures (MTN)
- Facilities (FAC)

Who should attend

ATSEP maintaining CNS/ATM systems or equipment (service level 1/2/A/B)

Technical personnel, such as project staff, technical safety and quality managers, product management staff (service level 3/4/C)

Prerequisites

A minimum of two years of technical education (academic or non-academic)

Course length

3 weeks

How to book

If you would like to receive more information about this course, please contact our Academy team (see page 10).

This course is compliant with EUROCONTROL Specification 132 (Annex 1) and with EU Regulation CR (EU) 2017/373 Annex XIII.

Qualification – Shared course

Course objectives

At the end of the course, the participants will possess the specific knowledge relevant to all technical domains and all qualifications being pursued in the CNS/ATM environment for ATSEP (service level A, B or 1, 2) and other maintenance staff (service level C or 3, 4).

Course content

The course covers the following Common Core Content (CCC) subjects:

- Safety (SHR SAF)
- Health and safety (SHR HAS)
- Human factors (SHR HUM)

Who should attend

ATSEP maintaining CNS/ATM systems or equipment (service level 1/2/A/B)

Technical personnel, such as project staff, technical safety and quality managers, product management staff (service level 3/4/C)

Prerequisites

A minimum of two years of technical education (academic or non-academic)

Prior participation in an ATSEP basic course is highly recommended.

Course length

1 week

How to book

If you would like to receive more information about this course, please contact our Academy team (see page 10).

This course is compliant with EUROCONTROL Specification 132 (Annex 7) and with EU Regulation CR (EU) 2017/373 Annex XIII.

Qualification – Communication course

Course objectives

At the end of the course, participants will possess specific knowledge of communication technology and the skills appropriate to the particular qualification being pursued in the CNS/ATM environment for ATSEP (service level A, B or 1, 2) and other maintenance staff (service level C or 3, 4).

Course content

The course covers the following Common Core Content (CCC) subjects:

- Voice (COM VCE)
- Data (COM DAT)
- Transmission path (COM TRP)
- Recorders (COM REC)
- Functional safety (COM FST)

Who should attend

ATSEP maintaining CNS/ATM systems or equipment (service level 1/2/A/B)

Technical personnel, such as project staff, technical safety and quality managers, product management staff (service level 3/4/C)

Prerequisites

A minimum of two years of technical education (academic or non-academic)

Prior participation in an ATSEP basic course is highly recommended.

Course length

4 weeks

How to book

If you would like to receive more information about this course, please contact our Academy team (see page 10).

This course is compliant with EUROCONTROL Specification 132 (Annex 2) and with EU Regulation CR (EU) 2017/373 Annex XIII.

Qualification – Navigation course

Course objectives

At the end of the course, the participants will possess the specific knowledge related to navigation systems and the skills appropriate to the particular qualification being pursued in the CNS/ATM environment for ATSEP (service level A, B or 1, 2) and other maintenance staff (service level C or 3, 4).

Course content

The course covers the following Common Core Content (CCC) subjects:

- Performance-based navigation (NAV PBN)
- Ground-based systems – NDB (NAV NDB)
- Ground-based systems – DFI (NAV DFI)
- Ground-based systems – VOR (NAV VOR)
- Ground-based systems – DME (NAV DME)
- Ground-based systems – ILS (NAV ILS)
- Global navigation satellite system (NAV GNS)
- On-board equipment (NAV OBE)
- Functional safety (NAV FST)

Who should attend

ATSEP maintaining CNS/ATM systems or equipment (service level 1/2/A/B)

Technical personnel, such as project staff, technical safety and quality managers, product management staff (service level 3/4/C)

Prerequisites

A minimum of two years of technical education (academic or non-academic)

Prior participation in an ATSEP basic course is highly recommended.

Course length

3 weeks

How to book

If you would like to receive more information about this course, please contact our Academy team (see page 10).

This course is compliant with EUROCONTROL Specification 132 (Annex 3) and with EU Regulation CR (EU) 2017/373 Annex XIII. Subject 7 (NAV MLS) is not included in this course.

Qualification – Surveillance course

Course objectives

At the end of the course, the participants will possess the specific knowledge of surveillance technology and the skills appropriate to the particular qualification being pursued in the CNS/ATM environment for ATSEP (service level A, B or 1, 2) and other maintenance staff (service level C or 3, 4).

Course content

The course covers the following Common Core Content (CCC) subjects:

- Primary (SUR PSR)
- Secondary (SUR SSR)
- ADS (SUR ADS)
- HMI (SUR HMI)
- Surveillance data transmission (SUR SDT)
- Functional safety (SUR FST)

In addition, it covers relevant parts of:

- Data processing systems (DAT DPS)

Who should attend

ATSEP maintaining CNS/ATM systems or equipment (service level 1/2/A/B)

Technical personnel, such as project staff, technical safety and quality managers, product management staff (service level 3/4/C)

Prerequisites

A minimum of two years of technical education (academic or non-academic)

Prior participation in an ATSEP basic course is highly recommended.

Course length

3 weeks

How to book

If you would like to receive more information about this course, please contact our Academy team (see page 10).

This course is compliant with EUROCONTROL Specification 132 (Annex 4) and with EU Regulation CR (EU) 2017/373 Annex XIII.

Qualification – Data processing course

Course objectives

At the end of the course, participants will possess specific knowledge of data processing and the skills appropriate to the particular qualification being pursued in the CNS/ATM environment for ATSEP (service level A, B or 1, 2) and other maintenance staff (service level C or 3, 4).

Course content

The course covers the following Common Core Content (CCC) subjects:

- Functional safety (DAT FSA)
- Data processing systems (DAT DPS)
- Process (DAT PRO)
- Data (DAT DAT)

In addition, it covers relevant parts of:

- Data (COM DAT)
- Primary (SUR PSR)
- Secondary (SUR SSR)
- HMI (SUR HMI)
- Surveillance data transmission (SUR SDT)

Who should attend

ATSEP maintaining CNS/ATM systems or equipment (service level 1/2/A/B)

Technical personnel, such as project staff, technical safety and quality managers, product management staff (service level 3/4/C)

Prerequisites

A minimum of two years of technical education (academic or non-academic)

Prior participation in an ATSEP basic course is highly recommended.

Course length

3 weeks

How to book

If you would like to receive more information about this course, please contact our Academy team (see page 10).

This course is compliant with EUROCONTROL Specification 132 (Annex 5) and with EU Regulation CR (EU) 2017/373 Annex XIII.

Qualification – System monitoring and control (SMC) course

Course objectives

At the end of the course, the participants will possess the specific knowledge of system monitoring and control as well as the skills appropriate to the particular qualification being pursued in the CNS/ATM environment for ATSEP (service level A, B or 1, 2) and other maintenance staff (service level C or 3, 4).

Course content

The course covers the following Common Core Content (CCC) subjects:

- ANS structure (SMC ANS)
- SMC system/equipment (SMC ASE)
- SMC tools, processes and procedures (SMC TPP)
- Technology (SMC TEC)
- Functional safety (DAT FSA)
- Data processing systems (DAT DPS)
- Process (DAT PRO)
- Data (DAT DAT)

In addition, it covers relevant parts of:

- Voice (COM VCE)
- Data (COM DAT)
- Recorders (COM REC)
- Performance-based navigation (NAV PBN)
- Ground-based systems – NDB (NAV NDB)
- Ground-based systems – DFI (NAV DFI)
- Ground-based systems – VOR (NAV VOR)
- Ground-based systems – DME (NAV DME)
- Ground-based systems – ILS (NAV ILS)
- Primary (SUR PSR)
- Secondary (SUR SSR)

- HMI (SUR HMI)
- Surveillance data transmission (SUR SDT)
- Data-processing systems (DAT DPS)
- Process (DAT PRO)
- Data (DAT DAT)

Who should attend

ATSEP maintaining CNS/ATM systems or equipment (service level 1/2/A/B)

Technical personnel, such as project staff, technical safety and quality managers, product management staff (service level 3/4/C)

Prerequisites

A minimum of two years of technical education (academic or non-academic)

Prior participation in an ATSEP basic course is highly recommended.

Course length

2 weeks

How to book

If you would like to receive more information about this course, please contact our Academy team (see page 10).

This course is compliant with EUROCONTROL Specification 132 (Annex 6) and with EU Regulation CR (EU) 2017/373 Annex XIII.



www.training.dfs.eu



On-the-job training (OJT) instructor qualification and refresher
Assessor qualification
Examiner qualification
Classroom teaching techniques
Emergency training instructor
Team resource management facilitator
Critical Incident Stress Management peer
Language competence assessor
Supervisor qualification
Emergency training and refresher
Handling of operational military traffic
Multi-runway operations
Radiotelephony procedures
Aviation English
Instrument flight procedures design PANSOPS – Basic course

Development and continuation courses

24 Development and continuation courses

On-the-job training (OJT) instructor qualification and refresher

Course objectives

At the end of the course, the participants will possess knowledge of the essential elements for the conduct of on-the-job training (OJT), covering legal requirements, psychological aspects, stress management as well as the basics of methodology and didactics. Participants will be able to apply the knowledge gained as OJT instructors.

Course content

The training course is divided into a short theory section of approximately two to three days, followed by a written exam and extensive OJT simulation exercises. The course covers the following subjects:

- ATC training techniques and assessing trainee performance
- How people learn
- Briefing/debriefing techniques
- Teaching on-the-job
- Human behaviour
- Monitoring and error correction
- Writing reports

Stress management, basics in safety management and Critical Incident Stress Management (CISM) are non-mandatory modules.

Who should attend

Air traffic controllers nominated as potential OJT instructors
Note: There are also courses for flight data personnel and ATSEP available; course length may vary.

Prerequisites

It is recommended to have a minimum of 3 years of experience after validation on operational positions, as well as a verified ICAO Language Proficiency Level 4.

Course length

10 days

Additional remarks

DFS also offers refresher training for OJT instructors.

How to book

If you would like to receive more information about this course, please contact our Academy team (see page 10).

Assessor qualification

Course objectives

At the end of the course, the participants will be able to prepare and carry out competence assessments which incorporate all the essential formal and behavioural elements. They will be able to immediately apply the knowledge gained and perform competence assessments of air traffic controllers.

Course content

The following subjects are covered in the classroom:

- Legal framework of assessments
- How to organise assessments
- How to perform evaluation assessments
- Psychological factors relating to assessments:
 - Role of the assessor
 - Communication and feedback
 - Conflicts
- Working with checklists

Practical exercises are used to ensure that the theory covered in the classroom can be applied in real-world situations. Competence assessments are simulated in various role plays which are followed by a debriefing and personal feedback.

Who should attend

Air traffic controllers

Prerequisites

Participants should be experienced operational personnel working as OJT instructors and examiners who have been selected to become competence assessors. A minimum of two years of experience as an instructor in practical training is mandatory.

Course length

2 days

How to book

If you would like to receive more information about this course, please contact our Academy team (see page 10).

Examiner qualification

Course objectives

At the end of the course, the participants will know the essential formal, behavioural elements and didactics needed for the preparation and conduct of theory and practical examinations. They will be able to apply the knowledge gained and perform examinations of air traffic controllers, air traffic safety electronics personnel or air navigation service experts.

Course content

Theory classes cover the following subjects:

- Features and performance criteria of tests
- Different kinds of examinations and tests
- Legal framework of examinations and tests
- How to organise examinations
- Performance evaluation for examinations
- Psychological factors relating to examinations:
 - Role of the examiner
 - Test anxiety and perception
 - Communication and feedback
 - Conflicts
 - Stress
- Working with checklists

Lectures are combined with practical exercises. The examination scenario is simulated several times followed by debriefing and personal feedback.

Who should attend

ATCOs, ATSEP and other air navigation services employees

Prerequisite

A minimum of two years of experience as an instructor in practical training is mandatory.

Course length

5 days

Additional remarks

Simulation is based on standard airspace/airport.
Individual airspaces/airports on request.

How to book

If you would like to receive more information about this course, please contact our Academy team (see page 10).
Longer lead time required.

Classroom teaching techniques

Course objectives

At the end of the course, the participants will know the essential elements of lesson planning and preparation and will be able to apply basic teaching skills in their classrooms. They will be able to define training objectives and create suitable visual aids.

Course content

All training methods which are presented are also actively employed during the theory lessons. The practical application part includes video feedback on participants' presentations and mini-lessons. The course content spans:

Principles of learning: Including the taxonomy of learning, perception, understanding, memory and different learning styles
Motivation: Types of motivation and how an instructor can foster these

Classroom management: The role of the instructor as a model and organiser of an environment conducive to learning, dealing with different types of trainees and handling interruptions

Training objectives: Defining training objectives and using such objectives successfully for planning and conducting lessons

Audio-visual aids: Uses and constraints of audio-visual aids in the theory classroom

Question techniques: Phrasing questions, using the question technique as a teaching tool and dealing with student answers

Teaching methods: Lesson structure, methods employing different degrees of student involvement and providing a variety of student activities

Lesson planning and preparation: Methods to plan and prepare lessons efficiently

Short presentation and mini-lessons with video analysis: This focuses on body language, language, voice, eye contact, lesson structure as well as teaching skills and lesson objectives

Who should attend

Personnel involved in, or preparing for, institutional training or the theory of operational training

Prerequisites

None

Course length

5 days

How to book

If you would like to receive more information about this course, please contact our Academy team (see page 10).

Emergency training instructor

Course objectives

At the end of the course, the participants will possess the knowledge, skills and behaviours needed for the development and conduct of exercises dealing with unusual incidents and emergency situations.

Course content

The course covers the following subjects:

- Planning and conduct of emergency training courses
- The ASSIST concept
- Design of an exercise for unusual incidents and emergency situations
- Content and use of an emergency checklist
- Human factors contribution to the handling of unusual incidents and emergency situations
- Role play of the tasks and behaviour of an emergency training instructor
- Guidelines for the observation of exercises and the feedback to the trainee

Some of the lessons will be conducted in an aerodrome or radar simulator.

Who should attend

Air traffic controllers with a valid licence for the respective rating and long-standing experience as an on-the-job training instructor

Prerequisites

Valid endorsement as an on-the-job training instructor and regular attendance at emergency (refresher) courses

Course length

3 days

Additional remarks

Simulation is based on standard airspace/airport.
Individual airspaces/airports on request.

How to book

If you would like to receive more information about this course, please contact our Academy team (see page 10).
Longer lead time required.

Team resource management facilitator

Course objectives

At the end of the course, participants will be able to conduct team resource management training and to facilitate the communication and learning process in a team on safety-related issues and the reduction of errors.

Course content

The course covers the following subjects:

- The aim of team resource management and TRM training
- The difference between facilitation and instruction
- Principles of human communication and related problems
- Human error
- Selected exercises and scenarios for team communication
- Safety-related communication issues
- Planning and conduct of a TRM seminar

Besides theory, the participants can also act as facilitators in role plays which will be analysed with video support.

Who should attend

Operational air traffic controllers interested in the improvement of safety by communication in the team

Prerequisites

OJTI endorsement and preferably classroom instructor qualification, good level of English language proficiency

Course length

5 days

How to book

If you would like to receive more information about this course, please contact our Academy team (see page 10).





Critical Incident Stress Management peer

Course objectives

At the end of the two-module course, the participants will possess the knowledge and communication skills needed to initiate a defusing process of colleagues after a critical event in an operational or private environment.

Course content

The critical incident training programme is based on the concept of the International Critical Incident Stress Foundation ICISF.

The content is separated in two modules lasting five days each:

Module 1	Individual crisis intervention and peer support
	Group crisis intervention
Module 2	Advanced group crisis intervention
	Strategic response to a crisis

Among other subjects the seminars deal with:

- Traumatic stress and crisis intervention
- Neurophysiological reactions after critical incidents
- Psychological reactions to crisis and trauma
- Incident assessment
- Small and large group crisis interventions
- Reducing risks
- Critical incident stress debriefing
- Concepts of enhanced group processes

Significantly delayed interventions

Suicide of a colleague

Small group crisis support sessions after a disaster

National incident management system and crisis intervention

Planning process in assessing target populations

The most important crisis intervention tactics

Who should attend

Operational air traffic controllers interested in the support of colleagues after a critical event and/or a post-traumatic stress disorder

Prerequisites

Good level of English language proficiency

Course length

5 days per module (see course content). The 4 sections can also be offered according to the ICISF structure as separate training events of 2 or 3 days duration.

Additional remarks

We also provide information modules for management staff and supervisors as well as update and refresher training for CISM peers.

How to book

If you would like to receive more information about this course, please contact our team of DFS Aviation Services (see Imprint on the back side for contact details).

Language competence assessor qualification

Course objectives

Correctly carry out an ICAO language assessment
Grade the language performance according to the ICAO rating scale up to ICAO level 4 or 5 and recognise language mistakes and make a note of these where necessary
Explain and discuss these language areas and define language areas which are relevant to the ICAO rating scale
List and explain the criteria needed to conduct an examination
Analyse the effects of behaviour and setting on the examination
Recognise different types of stress relating to examination behaviour
Suggest and evaluate different ways of reducing this stress
Recognise the importance of using the holistic descriptors and the rating scale
Differentiate between various language levels using the scale
Understand the terminology used in the scale

Course content

Part 1: Language testing requirements – Why the test is needed and the legal framework of the testing procedure
Part 2: Oral language testing procedure – The framework for oral language testing is explained, demonstrated and analysed
Part 3: Language recognition and testing standards – Participants are asked to recognise mistakes in the English language and classify them with the aid of the ICAO language rating scale
Part 4: Language testing simulation – Candidates must demonstrate the ability to carry out an oral language test according to the theory

Part 5: Examination – Candidates have to carry out a free examination (briefing-examination-debriefing), they will be graded in accordance with a predefined set of criteria, Listening examination candidates must evaluate 3 listening examples, written examination candidates must correct 10 typical sentences, each of which contains 3 mistakes

The correct use of ICAO phraseology will not be assessed here.

Who should attend

Air traffic controllers, pilots

Prerequisites

Pilot or ATCO background and the appropriate ICAO language level:

ICAO level 5 for assessing up to level 4

ICAO level 6 for assessing up to level 5

Please note: The qualification course for language competence assessors (ICAO level 4) must be successfully completed before attending the qualification course for ICAO level 5.

Course length

5 days to be qualified to assess ICAO level 4

4 days to be qualified to assess ICAO level 5

How to book

See page 10

Compliant with ICAO Language Proficiency Requirements Doc. 9835

Supervisor qualification

Course objectives

At the end of the course, participants will be able to manage their first team, handle abnormal situations in service provision, communicate with security authorities and the fire service, and to decide on traffic restrictions.

Course content

The training programme comprises five modules:

Module 1: Management and communication skills, principles for employee appraisals, cooperation with the human resources department

Module 2: Legal aspects relevant to supervisors, European regulations affecting air navigation services, communication with the public, strategic developments in aviation

Module 3: Staff planning, shift rosters, conduct of unit and continuation training, revenues and cost structure of an ANSP, basics of business administration

Module 4: Safety management objectives and processes, civil-military cooperation, environmental aspects of service provision, handling of abnormal situations, behaviour after critical incidents, first communication with a hijacker

Module 5: Air traffic flow management procedures and data sources, flexible use of airspace, cooperation with the Network Manager and the airlines, decision on traffic restrictions

Between the modules, the participants will be tasked with case studies and the preparation of presentations related to subjects of the succeeding module.

Who should attend

Air traffic controllers with experience as instructors and examiners/assessors and willing to take responsibility for the management of services and staff

Prerequisites

Management potential identified

Course length

3 to 5 days per module depending on the number of participants

How to book

See page 10. Longer lead time required.

Emergency training and refresher

Course objectives

At the end of the course, participants will possess the knowledge, skills and behaviours needed to deal with emergency situations and unexpected events in their operational environment.

Course content

According to the EUROCONTROL Common Core Content specification, the training of emergency and abnormal operational situations has to be an integral part of initial training rating courses.

The regular training of appropriate reactions of air traffic control staff to emergency situations and unexpected incidents should be a constitutive element of the competence scheme according to CR (EU) 2015/340. To achieve the related objectives, the training course has to include practical lessons in a simulator, preferably providing the environment and standard procedures of the workplace.

DFS offers various training courses for aerodrome and radar controllers and as well the appropriate refresher modules.

The courses include classroom and practical lessons and cover the subjects:

- Procedures for emergency and abnormal situations in accordance with ICAO and the manuals of operation
- Types of emergency situations and incidents
- Situational awareness
- Implementing emergency procedures in the operational environment
- Awareness raising of emergency procedures in the cockpit
- Practical use of checklists and local alerting plans
- Emergency control and coordination procedures
- Application of appropriate radio and telephone communication procedures
- Standard emergency procedures in accordance with the ASSIST principle

Joint training of airlines and ATC

As understanding of the cockpit situation is of particular importance for air traffic controllers' reactions to abnormal situations, DFS and Lufthansa Flight Training have linked several flight simulators and radar simulator positions at Frankfurt Airport. In this environment, airline pilots and air traffic controllers run joint exercises and conduct debriefings together to identify possible improvements for the air-ground communication, describe the expectations regarding the services and actions by ATC in the given situation and to share the experience gained during the simulation.

Who should attend

Air traffic controllers with valid licences for aerodrome control, approach control or area control

Prerequisites

Valid licences for aerodrome control, approach control or area control

Course length

Induction course: 5 days

Refresher course: 1 day

Joint course: 1 day

Additional remarks

Simulation is based on standard airspace/airport.
Individual airspaces/airports on request.

How to book

If you would like to receive more information about this course, please contact our Academy team (see page 10).
Longer lead time required.



Handling of operational military traffic

Course objectives

At the end of the course, participants will possess the knowledge and skills needed for the handling of operational military flights. In particular they will learn:

- The particular performance data of military aircraft
- The special flight procedures and profiles including arrival and departure procedures for operational military traffic
- The appropriate reactions to emergency situations of military aircraft

Course content

The course covers the following subjects:

- Military abbreviations and phrases
- Performance data of military aircraft
- Flight procedures and profiles for military flights
- Special arrival and departure procedures for military flights
- Requirements of flights in charge of air policing (scramble flights)
- Requirements of reconnaissance flights (e.g. AWACS)
- Tanker patterns
- Air-to-air refuelling
- Formation flights
- Join-up and split of formation flights
- Radar-assisted flight information services
- Handling of emergency situations of military flights

- Cooperation with air defence stations
- Renegade
- QRA

The course includes practical lessons at radar simulator positions

Who should attend

Air traffic controllers

Prerequisites

Valid licences for aerodrome control, approach control or area control

Course length

4 to 5 days depending on the number of participants

Additional remarks

Practical training of air-to-air refuelling procedures in the simulator lessons can be added, extending the duration by one day.

Simulation is based on standard airspace/airport.
Individual airspaces/airports on request.

How to book

See page 10. Longer lead time required.

Multi-runway operations

Course objectives

The participants will know and be able to apply the ICAO rules and regulations for the operation of multiple runways and the related working procedures for aerodrome control and approach control services. The participants will benefit from the procedures applied and experience gained by DFS staff with various different runway configurations.

Course content

- Relevant ICAO regulations and procedures (Doc 4444 and Doc 9643) for multi-runway operations
- Terms and abbreviations relevant to the use of parallel runways
- Operational concepts and considerations for the use of parallel runways
- Approach and aerodrome control procedures for dependent runways and deviations from ICAO documents
- Options for the utilisation of parallel runways (individual use, selective use, departure only, arrival only, displaced thresholds)
- Special procedures (swingover)
- Simultaneous approaches to parallel runways
- Independent instrument departures from parallel runways
- Monitoring of aircraft on approaches regarding the avoidance of no-transgression zones and the related instructions
- Segregated operations on parallel runways
- CNS equipment necessary for simultaneous operations on parallel runways

- Handling of missed approach procedures

The course includes practical lessons in an aerodrome and/or radar simulator and visits to Frankfurt Tower and of the approach control units for the international airports of Düsseldorf, Frankfurt, Cologne and Stuttgart in the Langen control centre. The programme could also include a visit to the aerodrome and approach control units for the international airport of Munich.

Who should attend

Air traffic controllers with valid licences for aerodrome control or approach control

Prerequisites

Valid licences for aerodrome control or approach control

Course length

5 to 10 days depending on the performance level to be achieved and the number of participants.

Additional remarks

Simulation is based on standard airspace/airport.
Individual airspaces/airports on request.

How to book

See page 10. Longer lead time required.

Radiotelephony procedures

Course objectives

At the end of the course, the participants will be able to appreciate the necessity for effective communication and the use of approved phraseology. Participants will also be able to explain and apply standard radio communication procedures.

Course content

The course covers the following subjects:

- Relevant ICAO regulations and procedures
- Radio communication procedures in the aeronautical mobile service: language rules and time system; categories of messages and order of priority; transmission of letters, numbers and marks; transmission of frequencies, visibility values and levels; call signs of aeronautical stations and of aircraft stations; change and abbreviation of call signs; differences between aircraft registration, aircraft designation and call sign
- Establishment of radiotelephony contact, acknowledgement of messages
- Multiple call, general call, blind transmissions
- Distress and urgency traffic, check of radio equipment, broadcasting service, position reports and read-back
- Phrases and phraseology for different phases of flight
- Loss of communication, light signals
- Instructions, clearances, conditional clearances, traffic information

Communication in emergency or unusual operational situations
The course includes practical lessons in a voice communication laboratory.

Who should attend

Individuals who want to participate in the aeronautical mobile service

Prerequisites

ICAO English language proficiency Level 4

Course length

Induction course: 5 to 8 days depending on the performance level to be achieved and the number of participants

Refresher course: 2 days

Additional remarks

The programme can also include an appraisal of English language proficiency according to ICAO requirements.

How to book

If you would like to receive more information about this course, please contact our team of DFS Aviation Services (see Imprint on the back side for contact details).



32 Development and continuation courses

Aviation English course

Course objectives

At the end of the course, the participants will possess the skills and knowledge to speak English in a way that is understandable for the international aviation community.

Course content

Instruction covers pronunciation, grammatical structures, vocabulary, fluency, comprehension and interactions and will qualify the participant for testing of level 4 or higher of the ICAO language proficiency table.

The content is based on aviation literature and provides opportunities for course participants to communicate with accuracy and clarity. Grammatical structures and sentence patterns are practised and sufficient ATM vocabulary is included for effective communication. Communication is practised with the aim of enabling students to provide immediate, appropriate and informative responses.

The main focus of instruction is on interactive communicative skills, discussions, role plays and participants' presentations.

Assessment and certificate

The participants' learning progress is continuously assessed and they receive regular feedback. Written and oral examinations are designed to assess the proficiency items as laid down in the relevant ICAO Annex.

Who should attend

Selected student ATCOs who have successfully passed a CCC basic course

Prerequisites

The students must have a degree of fluency and be able to express themselves without too many problems regarding accuracy or appropriate vocabulary. In more advanced areas of the language, the student may still be uncertain in the proper application of vocabulary and grammar. Pronunciation must be reasonable, although listeners may occasionally have problems understanding.

Course length

3 weeks

Additional remarks

This course can be combined with a CCC basic course (ab-initio training).

How to book

If you would like to receive more information about this course, please contact our Academy team (see page 10).

Instrument flight procedures design PANSOPS – Basic course

Course objectives

At the end of the course, the participants will be able to check, correct and develop procedures for air navigation services necessary for the safe conduct of the different phases of flight.

Course content

The content is aligned with ICAO Document 8168, Volume II.

Participants learn about criteria for procedure construction and obstacle clearance, the calculations and construction characteristics of different arrival and approach segments as well as of specific instrument approach procedures and precision approaches.

Additionally, the course covers information about:

- Basic trigonometric calculations
- Units of measurement for calculations
- Introduction to area navigation (RNAV)

Who should attend

Individuals who want to design, or assess the design, of procedures for instrument flights

Prerequisites

Previous knowledge is not required

Course length

10 days

How to book

If you would like to receive more information about this course, please contact our Academy team (see page 10).

Fundamentals of safety management in ATM (Module 1)

Safety assessment for changes in ATM (Module 2)

Moderating and facilitating safety assessment workshops (Module 3)

Safety assessment for decision-makers (Module 4)

ATM occurrence investigation (Module 5)

ATM technical safety occurrence investigation (Module 6)

Occurrence reporting and safety promotion (Module 7)

Team resource management (Module 8)

Human factors in ATM projects (Module 9)

Training packages

34 Safety management and human factors courses

Fundamentals of safety management in ATM (Module 1)

Course objectives

At the end of this course, participants will have basic knowledge of safety management in accordance with ICAO provisions. The participants' learning objectives are:

- The fundamental concepts of safety management
- The framework and elements of a safety management system (SMS) in accordance with ICAO provisions
- Examples of practical implementations of the requirements
- How the components of an SMS work and the interdependencies in practical ATM

Course content

The course gives an introduction to safety management in ATM including the standard structure and approach, as well as reference to the applicable international provisions of ICAO and EUROCONTROL.

An overview of the historical development of safety management includes several stages such as the development of technology, human factors and the recognition that safety needs to be considered at the organisational level.

In addition, the course provides the participants with examples of implementation, case studies and practical group exercises. Finally, case studies of SMS are presented.

Who should attend

The course addresses employees and managers who want to gain a fundamental insight into safety management as regards the regulatory framework, practical implications and the methods needed to manage safety effectively.

Prerequisites

The course does not require previous training in safety management although relevant work experience is useful.

Course length

1–2 days

Additional remarks

The trainers are highly experienced in safety management and training.

How to book

If you would like to receive more information about this course, please contact our team of DFS Aviation Services (see Imprint on the back side for contact details).



Safety assessment for changes in ATM (Module 2)

Course objectives

At the end of this course, participants will know the basic principles of a safety assessment and the four major steps in conducting an assessment:

- Systematic description of change
- Identification of hazards
- Derivation of safety requirements
- Safety analysis

Initial experience is gained by taking part in practical exercises in these topics.

Course content

This concise course presents the safety assessment methodology as used by the DFS group and it is a compact, coherent and extensively applied approach to safety assessment which satisfies all pertinent regulatory requirements internationally (ICAO, European Commission and EUROCONTROL). The method is generic in the sense that all standard aspects encountered in safety assessments are addressed.

Apart from the theory, extensive practical exercises are conducted with the participants to gain initial experience with the various tasks of a safety assessment. Specific safety assessment cases are presented to provide the trainees with an insight in the practice of safety assessment at the DFS group.

Who should attend

The participants of the course should be:

- Staff that conduct or will conduct safety assessments of changes in ATM
- Safety managers
- Staff that has related managerial or regulatory responsibilities

Prerequisites

The participants have basic knowledge and understanding of safety management in ATM, such as provided by the course "Fundamentals of safety management in ATM"; previous attendance of that course is not strictly required, however.

Course length

4–5 days

Additional remarks

The course is compliant with ICAO and European regulations and provides an insight into current methodological developments. The trainer is highly experienced in carrying out safety assessments and training courses for a large number of customers.

How to book

If you would like to receive more information about this course, please contact our team of DFS Aviation Services (see Imprint on the back side for contact details).



Moderating / Facilitating safety assessment workshops (Module 3)

Course objectives

At the end of this course, participants will know about the various kinds of safety assessment workshops and the tasks and responsibilities of a moderator / facilitator: planning, preparing, performing and processing workshops. The knowledge, skills, behaviour and ability to handle group dynamics necessary to reach the workshop's goals efficiently are addressed in the training course.

Course content

In this course, the various kinds of safety assessment workshops (e.g. hazard identification brainstorming, hazard analysis workshops and hazard analysis interviews) are presented. The tasks and responsibilities of a facilitator in planning, preparing, performing (in particular) and processing safety assessment workshops as well as the facilitator's competencies (knowledge, skills and behaviour) required for successfully fulfilling his/her tasks and responsibilities are addressed.

The course is divided into a theory section and a practical section. The theory section provides the trainees with the knowledge necessary to conduct safety assessment workshops. In the practical section, the participants will gain practical experience as facilitators in simulated safety assessment workshops of the various kinds.

Who should attend

Employees who conduct or will conduct safety assessment workshops

Prerequisites

Participants need basic knowledge of and experience with safety assessments. The course "Safety assessment for changes in ATM" is a good preparation.

Course length

2-3 days

Additional remarks

The trainer has many years of experience in conducting safety assessment workshops and sharing his practical knowledge via training courses.

How to book

If you would like to receive more information about this course, please contact our team of DFS Aviation Services (see Imprint on the back side for contact details).

Safety assessment for decision-makers (Module 4)

Course objectives

At the end of this course, participants will understand safety assessment principles and outputs. The course will enable the effective initiation, supervision and approval of safety assessments.

Course content

The training course addresses the supervision and approval of safety assessments for decision-makers and includes:

- Understanding of the methodology adopted for safety assessments, including hazard identification
- Initiating and supervising safety risk assessment activities
- Validating the derived risk mitigating measures
- Approving the safety risk assessment outputs

The training course includes practical sessions to enable trainees to apply knowledge in realistic cases.

Who should attend

Participants should be supervisory officers/senior managers who need to supervise and approve safety assessment outputs. These officers may supervise employees who have attended the courses "Safety assessment for changes in ATM" and/or "Moderating and facilitating safety assessment workshops".

Prerequisites

The participants have basic knowledge and understanding of safety assessments, but they do not need to have attended the courses "Safety assessment for changes in ATM" and/or "Moderating and facilitating safety assessment workshops".

Course length

2 days

Additional remarks

The module has benefitted from valuable exchange with a large number of senior managers and decision makers. The trainer is highly experienced in conducting safety assessments and will give the participants an insight on how to embed safety assessments in ATM projects and how to supervise them effectively and efficiently.

How to book

If you would like to receive more information about this course, please contact our team of DFS Aviation Services (see Imprint on the back side for contact details).



ATM occurrence investigation (Module 5)

Course objectives

At the end of this course, participants will know how to conduct investigations related to ATM occurrences. They will also learn the holistic approach of modern ATM occurrence investigation, the derivation and writing of recommendations and safety promotion as an essential element of the occurrence investigation process. Furthermore, participants will learn to use a software tool – the Risk Analysis Tool – to systematically analyse risks in group exercises.

Course content

This training module provides the participants with an introduction and overview of the investigation of ATM occurrences. The following topics are covered:

- The purpose of an investigation
- Occurrence reporting and safety management systems
- Human factors
- Accident models
- Understanding hindsight bias
- The new view of accident investigation
- Gathering facts
- Interview techniques
- Analysis process
- Writing recommendations

Who should attend

Staff who:

- Conduct or will conduct investigation of ATM occurrences
- Develop processes for the investigation of ATM occurrences
- Have related managerial or regulatory responsibility

Prerequisites

The participants must have basic knowledge and understanding of safety management in ATM, such as provided by the course "Fundamentals of Safety Management in ATM", however, they need not have attended this course.

Course length

4–5 days

Additional remarks

The course combines applicable international and European regulations with current developments in ATM occurrence investigation. The trainer is highly experienced in safety management, occurrence investigation and training.

How to book

If you would like to receive more information about this course, please contact our team of DFS Aviation Services (see Imprint on the back side for contact details)

ATM technical safety occurrence investigation (Module 6)

Course objectives

At the end of this course, participants will know how to conduct investigations related to CNS/ATM system occurrences. They will learn about aspects such as reporting, methodology, workflow, risk classification and mitigation measures. Furthermore, participants will learn to use a software tool – the Risk Analysis Tool – to systematically analyse risks in group exercises.

Course content

The course provides the participants with the knowledge necessary to conduct investigations of technical safety occurrences related to Communication, Navigation, Surveillance and Air Traffic Management (CNS/ATM) system failures.

Investigation aspects include but are not limited to reporting, methodology, workflow, risk classification and mitigation measures, based on ICAO standards and recommended practices and actual incidents.

Instruments that enable ATM safety staff to systematically analyse risks are presented. The participants conduct their own case study in an exercise using the instruments presented.

Who should attend

The participants of the course are staff who:

- Conduct or will conduct the investigation of technical safety occurrences
- Develop processes for the investigation of technical safety occurrences
- Have related managerial or regulatory responsibility

Prerequisites

The participants must have basic knowledge and understanding of safety management in ATM, which can, for instance, be obtained by attending the course "Fundamentals of Safety Management in ATM".

Course length

3 days

Additional remarks

The trainers are highly experienced in safety management, operations and CNS/ATM and will share their practical knowledge.

How to book

If you would like to receive more information about this course, please contact our team of DFS Aviation Services (see Imprint on the back side for contact details)

Occurrence reporting and safety promotion (Module 7)

Course objectives

At the end of this course, participants will know how to set up a reporting system and how to foster an effective reporting culture. They will learn to understand the importance of effective safety promotion to foster a reporting culture and to actively reduce the fear of negative consequences following the reporting of occurrences.

Course content

The course teaches the participants how to systematically collect, store and analyse data relevant to occurrence reporting. Examples of an automated workflow for all three steps are shown. Participants will familiarise themselves with an exemplary design of a database to track measurements and responsibilities pertinent to recommendations derived from occurrence investigations.

In a second step, the dissemination of findings or lessons learned is shown in practicable examples. Further means of safety promotion are addressed.

Who should attend

The course is designed for:

- Staff concerned with safety management, occurrence investigation and reporting and safety promotion
- Managers
- Staff concerned with corporate communication

Prerequisites

The participants must have basic knowledge and understanding of safety management and occurrence investigation in ATM, however, they need not have attended the corresponding DFS courses.

Course length

2 days

Additional remarks

The trainer shares his branch experience gathered over years as a safety manager and explains how occurrence reporting and safety promotion fit into an effective safety management system.

How to book

If you would like to receive more information about this course, please contact our team of DFS Aviation Services (see Imprint on the back side for contact details).

Team resource management (Module 8)

Course objectives

At the end of the course, the participants' team skills and performance will be enhanced, thus reducing the number of teamwork-related errors that lead to incidents and/or accidents in ATM.

Course content

Practical exercises, such as role plays, group work and discussions, play an important part in this course to ensure that the theory covered in the classroom can be applied in real-world situations. The following training modules are available:

Basic Module (TRM G): Teamwork, role models, communication, situational awareness, attitude and decisions and stress management

Error Management (TRM F): Errors and violations and strategies to avoid them, error management, patterns of behaviour and case study exercise

Responsibility (TRM V): Definitions, impact on team, role model, team culture, norms and value systems

Critical Situations in Teams (TRM K): Responsible actions and professionalism, different kinds of critical situations, contributing factors, role models in a team, case study exercise, how to cope with and solve critical situations in a team

Varying Topics (TRM X): Content based on above-mentioned

modules according to the needs of course participants

Who should attend

Air traffic controllers

Prerequisites

Previous knowledge is not required

Course length

1-2 days depending on course content

Additional remarks

This programme is based on an official European Air Traffic Management Programme deliverable and can be adjusted to the local communication culture.

How to book

If you would like to receive more information on this course, please contact our team of DFS Aviation Services (see Imprint on the back side for contact details).

Human factors in ATM projects (Module 9)

Course objectives

At the end of this course, participants will have an overview of human factors in ATM. They will acquire knowledge of theory as well as practical understanding. The course will enhance the participants' abilities to integrate human factors in ATM projects, in particular regarding systematically identifying and managing human factors issues as early as possible in a project life cycle.

Course content

In this course, the basic principles of human factors and how to implement them in practice will be addressed. Guidance on how to implement these principles in an actual ATM system development is also given.

Based on experience and good practice, advice is provided on how ATM systems can be supported by the application of human factors oriented measures. Best practice examples such as DFS's Design Process Guide and EUROCONTROL's Human Factors Case are presented.

The course programme covers:

Introduction to human factors in ATM

Main concepts and their relation to ATM performance

Applied human factors tools

Human factors in ATM system design, development and evaluation
Exercise on the integration of human factors into the project life cycle

Who should attend

The course addresses participants such as project officers, regulators and managers who conduct and contribute to, or will conduct and contribute to, projects in which human factors are involved.

Prerequisites

The participants must have basic knowledge and understanding of safety management and/or project management in ATM.

Course length

4 days

Additional remarks

The course is based on state-of-the-art human factors knowledge and practical experience in project management, operations and human factors in ATM.

How to book

If you would like to receive more information about this course, please contact our team of DFS Aviation Services (see Imprint on the back side for contact details).

Training packages

To lay a solid basis in understanding safety management in ATM and to learn how to adopt and refine its practical application, the training modules can be combined with each other. Recommended are the following two comprehensive training programmes. These programmes can be tailored to meet your individual needs.

Basic safety management and human factors in ATM

Understanding and applying safety management is of growing importance in the context of increasing air traffic, technological development and the recently published ICAO Annex 19 on Safety Management. Our training provides participants with a solid basis in safety management. More than two hundred participants from various countries in Asia have already taken part.

This programme combines the following modules:

Module 1: Fundamentals of safety management in ATM

Module 2: Safety assessment for changes in ATM

Module 5: ATM occurrence investigation

Module 8: Team resource management

Module 9: Human factors in ATM projects

Advanced ATM safety management

The advanced programme has been designed for staff that have already participated in the basic programme (as outlined above) or

have equivalent education or experience. Compared to the basic programme, the training methods emphasise case studies from practice as well as group exercises in which the participants learn by playing various roles in realistic situations.

This programme involves the following four main parts:

Part 1: Organisational safety management, covering e.g. safety culture, fatigue risk management and organisational crisis management

Part 2: Advanced safety assessment

– **Module 3:** Moderating and facilitating safety assessment workshops

– **Module 4:** Safety assessment for decision-makers

Part 3: Advanced ATM occurrence investigation

– **Module 6:** ATM technical safety occurrence investigation

Part 4: Human factors in safety management

– **Module 8:** Team resource management

– **Module 9:** Human factors in ATM projects

Additional remarks

Each programme lasts two to three weeks (10 to 15 working days) and each module is led by a specialised trainer with years of relevant working experience in the topic. For a detailed description, see the previous pages.



Selection

English proficiency assessment

Other services

Selection

As ab-initio training for new controllers is a costly investment, an efficient and detailed selection process is crucial to ensure that most trainees successfully pass the training and can start working in control centres or towers. Over many decades, DFS has perfected its selection strategies resulting in high success rates for its trainees.

Based on this expertise, DFS experts offer consultancy on the most appropriate recruitment and selection strategies for its training customers.

After analysing the customers' requirements, DFS gives advice on selection techniques and also offers a multi-stage selection process for aptitude selection, supported by experienced occupational psychologists.

The process is organised and designed according to the needs and the environment of the customer. They can choose to make use of the whole selection package, or to use only specific test stages. The scope, the duration and the experts involved vary with the requirements of the customers and also with the amount and complexity of traffic of the ATC units for which participants will be trained.

Contact us

If you would like to receive more information about this subject, please contact our Academy team (see page 10).

Longer lead time required.

English proficiency assessment

In the aviation environment, communication needs to be clear, concise and unambiguous. DFS conducts language proficiency assessments for the English language for air traffic controllers and flight information services controllers. The language skills of the candidates are assessed by the rater based on the ICAO rating scale and holistic descriptors. The assessment consists of a listening comprehension test and an oral test where the candidates have to prove their language proficiency in an aviation context.

Contact us

If you would like to receive more information about this subject, please contact our Academy team (see page 10).

This course complies with the ICAO language proficiency requirements.



Imprint

DFS Aviation Services GmbH
Heinrich-Hertz-Straße 26
63225 Langen
Germany

T: +49 6103 3748-101

F: +49 6103 3748-200

E-mail: training@dfs-as.aero

Internet: www.dfs-as.aero