STANDARDIZED TRAINING PACKAGES (STPs) CATALOGUE

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Updated 23 January 2009

021/030/AIS Operador ARO/AIS

Centro: CIPE, Buenos Aires, Argentina	Versión: 1
Idioma de instrucción: Español	Duración: 4 semanas

Propósito del curso

Formar al personal que se desempeñar en el Servicio ARO/AIS, de acuerdo a los requerimientos de la normativa vigente.

Objetivos:

- Describir la organización del Sistema de Protección al Vuelo de Argentina
- Reconocer los servicios e instalaciones básicas de un Aeródromo especificando las funciones y utilidad de estos para con la aeronavegación.
- Aplicar las habilidades y asumir las actitudes necesarias para la atención presencial y a distancia de los interlocutores.
- Recopilar, organizar y brindar, en acuerdo a los procedimientos establecidos; la información previa al vuelo necesaria para la planificación de las operaciones aéreas.
- Recibir y evaluar la información posterior al vuelo, tomando las medidas que correspondan.
- Reconocer y discriminar las actividades del Servicio de Tránsito Aéreo.
- Interpretar la conformación, clasificación y use de los espacios aéreos.
- Apreciar y evaluar la importancia de la función ARO/AIS para el logro de los objetivos del Servicio Tránsito Aéreo.
- Extraer de las Cartas Aeronáuticas todos los datos necesarios para el asesoramiento a los usuarios en la planificación de una operación aérea.
- Verificar los datos del formulario FPL presentado por el piloto, detectando la existencia de errores y asesorando a éste para efectuar las correcciones necesarias.
- Completar la parte del formulario FPL correspondiente al direccionamiento y datos del remitente de acuerdo a las necesidades del servicio de Tránsito Aéreo y a las normas de comunicaciones vigentes.
- Recibir y transmitir mensajes por Teletipo.
- Controlar los comprobantes correspondientes al pago dispuesto por la Ley de Tasas por Servicios Aeronáuticos.
- Calcular el importe a cobrar en función de la Tasa aplicada.
- Controlar el cumplimiento de Normas, Leyes y Reglamentos por parte de los usuarios del servicio ARO/AIS.
- Determinar las medidas a tomar ante la detección de irregularidades en la documentación.
- Realizar las tareas de registro y archivo de información y datos de uso interno del servicio.
- Evaluar la situación del servicio ARO/AIS en función a las características de funcionamiento y particularidades de cada Aeródromo.

Grupo a ser capacitado:

Principal: Personas que actualmente se desempeñan en ARO/AIS sin haber recibido capacitación suficiente.

Secundario: Otros agentes de la administración de aviación civil (tanto civiles como militares) que tienen la posibilidad de iniciar un plan de carrera en el agrupamiento seguridad y protección al vuelo.

Requerimientos para el ingreso:

Estudios secundarios completos o combinación de estudios y experiencia equivalentes. Inglés y dactilografía deseables.

Contenido del curso:

	Modulos	Duración
1.	Introducción a la Función ARO/AIS	15 horas
2.	Interrelación del Operador ARO/AIS con los Usuarios	15 horas
3.	Información Previa y Post Vuelo	20 horas
4.	Servicio de Tránsito Aéreo	15 horas
5.	Cartografía Aeronáutica	15 horas
6.	Presentación y Verificación del Plan de Vuelo	13 horas
7.	Comunicaciones del Plan de Vuelo	9 horas
8.	Laboratorio de Comunicaciones	16 horas
9.	Ley de Tasas	12 horas
10.	Control de Normas, Leyes y Reglamentos	12 horas
11.	Normas internas de funcionamiento	9 horas

021/117/AIS GEN Basic AIS Officer

Centre: CAUC, Tianjin, China	Version: 1
Language of Instruction: English	Duration: 22 days

Purpose of the Course:

To prepare trainees having a general knowledge in Aviation Sciences and Air Navigation Services for OJT at an AIS unit, in order to obtain a rating as AIS Officer.

Objectives:

Upon completion of the course, the trainees are capable of (after an OJT of reasonable duration) performing the duties of an AIS officer at any of the civil aerodromes in China, in a safe and efficient manner.

Target Population:

Trainees having, after graduation from high school, completed two years of training at the CAUC, including one year of Basic Aviation Science and one year of Basic Air Navigation Services, selected for future posts as AIS Officers.

Prerequisites:

Trainees should have:

- graduated from high school;
- completed two years of training at the CAUC, including one year of Basic Aviation Science and one year of Basic Air Navigation Services, with approved results, and
- the ability to understand written and spoken English, comparable to CET Grade 4.

Course Content:

	List of Modules	Duration
0.	Introduction	3 hours
1.	Update AIP	3 hours
2.	Revise AIP according to NOTAM	3 hours
3.	Process NOTAM received	5.5 hours
4.	Prepare PIB	1.7 hours
5.	Process SNOTAM received	4 hours
6.	Issue NOTAM	7.5 hours
7.	Issue SNOTAM	3.5 hours
8.	NOTAM Checklist	2.6 hours
9.	Briefing	33 hours
10.	Evaluate obstacles	11.5 hours
11.	Aerodrome obstruction chart—type A	12.5 hours

Equipment:

- 1 classroom for 30 trainees
- 30 binders for trainees in which to organize handouts, etc.
- 1 computer with data projector
- 1 set of reference books:
- 1 AIP China, ICAO Annex 14, ICAO Annex 15, ICAO Doc 8126
- 1 CCAR 93, INMS user manual
- 1 AIS Simulator; at least 10 computers with INMS software
- 1 a wooden obstacle limitation surface model

029/034/NOTAM Especialista NOTAM

Centro: ISFPA, Ciudad de Panamá, Panamá	Versión: 1
Idioma de instrucción: Español	Duración: 2 semanas

Propósito del curso:

Desarrollar las capacidades de los alumnos para:

- Preparar los NOTAM, llenando todos los requisitos del Anexo 15 de la OACI y los documentos 8126 y 8400 de la OACI.
- Mantener y actualizar el registro de los NOTAM de conformidad con los procedimientos y normas internacionalmente reconocidos.
- Verificar y establecer la vigencia de los NOTAM y demás publicaciones de información aeronáutica nacionales e internacionales conforme al país y las series correspondientes cuando corresponda.
- Verificar que las informaciones y coordinaciones con los servicios conexos sean precisas, claras y oportunas para la preparación de los NOTAM.
- Preparar los resumenes de los NOTAM en el formato correspondiente.
- Aplicar las normas de clasificación y asignación de prioridades para el intercambio de los mensajes o avisos NOTAM necesarios para la seguridad de la navegación aérea.
- Utilizar el software especialmente diseñado para el procesamiento, registro, actualización de los NOTAM y preparación de los informes de NOTAM correspondientes.

Objetivos:

Dada la información necesaria y una PC, el alumno ser capaz de:

- Clarificar la información recibida, colacionar, buscar otros medios de comprobación y decidir si se procede a formular un NOTAM.
- Preparar un NOTAM
- Preparar los Resúmenes de NOTAM vigentes, correspondientes a las series Alpha y Charlie
- Preparar la Lista Verificativa de los NOTAM vigentes
- Preparar el Informe Diario de NOTAM vigentes
- Actualizar el Tablero Autoinformativo
- Actualizar las carpetas de archivo y registro de los NOTAM nacionales y extranjeros
- Registrar las publicaciones en el tarjetero de NOTAM que corresponda
- Seleccionar y archivar los NOTAM nacionales cancelados
- Actualizar las publicaciones y/o las carpetas (archivos) correspondientes
- Comprobar, seleccionar y remitir los NOTAM solicitados
- Determinar los NOTAM faltantes de cada uno de los países con quienes hay intercambio
- Operar el software NOTAM

Grupo a ser capacitado:

- Personal asignado o a ser asignado a las NOF internacionales.
- Requerimientos para el ingreso:
- Haber cursado la educación secundaria, inglés básico, 2 años de experiencia en AIS.

Contenido del curso:

	Módulo	Duración
0.	Introducción al curso	1h30
1.	Publicaciones AIS	6h10
2.	El Espacio Aéreo	7h00
3.	Códigos y Abreviaturas del Formato NOTAM	4h10
4.	Servicios Conexos de la Informatión NOTAM	7h10
5.	Valoración de la Informatión para emitir un NOTAM	2h35
6.	Uso de la AIP y Asignación de Areas de Responsabilidad	3h35
7.	Características del Texto NOTAM	2h25
8.	Preparación del NOTAM	3h50
9.	Archivo y Control de los NOTAMs	5h10
10.	Lista Verificativa de NOTAM, Resumen y Resumen diario de NOTAM vigentes	2h40
11.	El Tablero Autoinformativo	2h45
12.	Actualización de Publicaciones AIS	2h30
13.	Asesoramiento al Usuario y el rol Administrativo	6h25

Equipos:

- Programa Audiovisual "Introducción al Curso Especialista NOTAM"
- Programa Audiovisual "Las Publicaciones AIS"
- Cámara de Video con trípode
- Monitor de TV
- Cassette de video en blanco
- Computadoras PC
- Diskette conteniendo el software "Programa NOTAM"

051/057/AA Aerodrome Assistants' Course

Centre: CATC, Allahabad, India	Version: 1
Language of Instruction: English	Duration: 6 weeks

Purpose of the Course:

To equip the ab initio Aerodrome Assistant Trainees with basic knowledge, skill and attitude to effectively perform their duties in various ATS Units and assist the Duty Officers engaged in the Air Traffic control.

Objectives:

On completion of this course the trainees will be able to:

- Originate / receive / interpret ATS, NOTAM and other messages.
- Process flight plans.
- Prepare flight progress strips.
- Prepare Pre-flight Information Bulletin (PIB).
- Prepare flight authority bulletin.
- Update Automatic Terminal Information Service (ATIS) broadcast.
- Prepare traffic revenue bills.
- Alert concerned Units / agencies / persons during priority / emergency / accident.

Target Population:

New recruits with basic education.

Prerequisites:

- Degree in Science with Physics or Mathematics with minimum 60% marks or Bachelor's Degree of a recognized University with private pilot licence or Associate Membership of Aeronautical Society of India.
- Ability to read, write and speak English fluently, and working knowledge of Hindi is desirable.

Course Content:

	List of Modules	Duration
0.	Course Inauguration	4 hours
1.	Communication & Coordination	45h40
2.	ATIS	20 hours
3.	Flight Plan	13 hours
4.	Flight Progress Strips	11 hours
5.	Flight Authority	10h50
6.	NOTAM & PIB	11h45
7.	RNFC & TNLC	7 hours
8.	Unusual Occurrences	91h30
9.	Graduation Ceremony	3 hours

Equipment:

- 5 digital clocks (with set, start, freeze and stop facility)
- 1 telephone exchange with 7 extensions
- 1 set of 4 walkie – talkies
- 3 VHF R/TF (J-controller)
- 1 DATIS
- 1 white board
- 1 set white board marking pens
- 2 overhead projectors
- 1 TV with VCP
- 1 video cassette “How Aeroplanes Fly” (ICAO – 465E-PAL)
- sufficient number of flight progress strips (blue, buff and pink)

052/019/ATCL ATC Licence and Aerodrome Control

Centre: CATC, Bangkok, Thailand	Version: 1
Language of Instruction: English	Duration: 17 weeks

Purpose of the Course:

To provide trainees with basic knowledge and experience within Air Traffic Control so that he or she can continue with course STP 053/47/ATCNR (Approach Control non radar) and, after that, continue with Area Control Course followed by On the Job Training at an Air Traffic Control unit in order to become a licensed Air Traffic Controller after successfully completing training.

Objectives:

Given lectures and practical training in an Air Traffic Control Tower simulator, trainees will have sufficient knowledge of ATC license and aerodrome control to meet the standards prescribed in ICAO Annex 1, Personnel Licensing.

Target Population:

Trainees graduated from high school without any experience within the field of Air Traffic Control or trainees with military background (equal to high school) and foreign trainees with similar background and/or some experience of work within the field of aviation.

Prerequisites:

- High school education or equivalent, or favourable experience and knowledge of aviation profession.
- Proficiency in both written and spoken English.
- Have medical fitness as specified in ICAO Annex 1, Personnel Licensing.

Course Content:

	List of Modules	Duration
1.	Aerodromes	5h00
2.	Aircraft, Wake Turbulence and Aircraft Designators	6h00
3.	Airspace, ATS/ATC Organization	4h00
4.	Spelling Alphabet, Codes and Indicators	9h00
5.	Basic Meteorology and Altimetry	10h00
6.	Rules of the Air & Basic (radio) Navigation	16h00
7.	Flight Plans & Flight Progress Strips for Arriving Aircraft	6h00
8.	General Communication Procedures	10h00
9.	Control of Arriving Aircraft, RWY-in-Use	7h00
10.	Control of Taxiing Aircraft	4h00
11.	Control of Arriving IFR Traffic	38h00
12.	Control of VFR Traffic	29h00
13.	Flight Progress Strips for Departing Aircraft	5h00
14.	ATC Clearances	5h00
15.	Push-back and Start-Up Control of Departing Aircraft	38h00
16.	AIS, ATIS, MET Messages and NOTAMs	15h00
17.	Control of Departing Traffic	38h00
18.	Control of Arriving IFR/VFR Traffic Forward Information	38h00
19.	Aeronautical Ground Lights	5h00
20.	Control of Departing IFR/VFR Traffic	37h00
21.	Control of Vehicles and Personnel	39h00
22.	Helicopter Traffic	27h00
23.	Aircraft Making Touch-and-Go Landings	51h00
24.	Wind Shear	5h00
25.	Emergencies and Abnormal Situations	36h00
26.	Military Procedures	27h00

053/047/ATCNR Approach Control Non-Radar

Centre: CATC, Bangkok, Thailand	Version: 1
Language of Instruction: English	Duration: 9 Weeks

Purpose of the Course:

To provide trainees with required knowledge and experience within Air Traffic Control so that he or she can continue either, with On the Job Training at an Approach Control Office, or directly with Area Control Course in order to become a licensed Air Traffic Controller.

Objectives:

Given lectures and practical training in an Approach Control simulator, trainee will have sufficient knowledge of Approach Control to meet the standards prescribed in ICAO Annex 1, Personnel Licensing.

Target Population:

Trainees graduated from high school and successfully having completed course STP 052/19/ATCL (License & Aerodrome Control), trainees with equal military background and foreign trainees with similar background.

Prerequisites:

- Graduated from STP 052/19/ATCL or military background equivalent.
- Proficiency in both written and spoken English.
- Have medical fitness as specified in ICAO Annex 1, Personnel Licensing.

Course Content:

	List of Modules	Duration
1.	Flight Information Service	5h00
2.	Separation for Departing Traffic and APP Responsibility	7h00
3.	Control of Departing IFR Traffic	22h00
4.	Control of Departing IFR/VFR Traffic	19h00
5.	Instrument Approach Procedures	6h00
6.	Clearance & Coordination	6h00
7.	Control of Arriving IFR Traffic	19h00
8.	Control Arriving IFR and VFR Flight	19h00
9.	Control Arriving Flight when delay is expected	20h00
10.	Arriving / Departing IFR/VFR Traffic	25h00
11.	Control of Overflying Traffic	19h00
12.	Missed Approach Procedures	20h00
13.	Repeated instrument approach procedures	20h00
14.	Alerting Service	21h00

053/102/ATCNR Non-Radar Approach Control Refresher

Centre: GACA, Jeddah, Saudi Arabia	Version: 1
Language of Instruction: English	Duration: 4 weeks

Purpose of the Course:

To improve the skill, attitude and knowledge of radar approach controllers in performing the procedural and operational non-radar approach control service.

Objectives:

On completion of this course the trainees will be able to:

- Conduct self-briefing and handover/takeover a watch.
- Communicate with the aircraft; provide flight information and process flight data as required.
- Issue appropriate clearances and complete flight progress strips.
- Coordinate traffic with appropriate units.
- Plan, control and monitor traffic.
- Handle all types of emergencias.

Target Population:

Approach controllers.

Prerequisites:

The participants must be rated approach radar & non-radar controllers.

Course Content:

	List of Modules	Duration
1.	Introduction and Administration	5h00
2.	Briefing and Communication	10h00
3.	Flight Plan	4h00
4.	ATC Clearance	6h00
5.	Coordination	21h00
6.	Controlling traffic	31h00
7.	Handling Emergency	14h00
8.	Graduation	5h00

Equipment:

1 approach simulator with:

- 3 controller positions
- 3 pilot positions
- 3 ACC/TWR positions
- 1 flight data position.

054/011/RCAP Radar Control (Approach)

Centre: QNCATC, Amman, Jordan	Version: 2
Language of Instruction: English	Duration: 8 Weeks

Purpose of the Course:

This course, followed by a minimum of 3 months' practical experience under the supervision of an appropriately-rated Air Traffic Controller, will train controllers who are experienced in procedural (non-radar) techniques of approach control to undertake the actual radar control of air traffic in the terminal control area, to internationally acceptable standards, and so as to qualify for the radar control (approach) rating.

Objectives:

On completion of this course, the trainee will be able to:

- Explain the principles of operation of Primary and Secondary Surveillance Radar (SSR) system.
- Describe the factors, which may affect the performance of Primary and Secondary Surveillance Radar (SSR) System.
- Update and maintain a traffic display quickly and accurately.
- Identify radar targets correctly in accordance with published radar procedures.
- Use standard phraseology as applied to approach radar control.
- Expedite climb and descent by vectoring aircraft within the Terminal Control Area (TMA) and maintain the prescribed radar or non-radar separation.
- Control arriving aircraft up to final approach:
    - Instrument Landing System (ILS)
    - Surveillance Radar Approach (SRA)
    - Visual approach
- Control departing and/or over flying aircraft within the TMA.
- Coordinate with tower, area control and other units in accordance with published radar procedures.
- Take appropriate action in the event of missed-approach, diversion or emergency.

Target Population:

Will be mainly recruited from trainees having completed Approach (non-radar) course and experienced in approach procedural control.

Prerequisites:

- Trainees should have satisfactorily completed:

    • secondary school or equivalent.
    • basic Air Traffic Control (ATC) training.
    • approach non-radar procedural training.

- The trainees should have command of the language of instruction.

Course Content:

	List of Modules	Duration
0.	Course Introduction	2h00
1.	Radar theory (technical)	11h00
2.	Equipment Operation	11h00
3.	Strip Marking	4h00
4.	Radar Identification	22h00
5.	Radar Vectoring	18h00
6.	Radar Separation	14h00
7.	Sequencing of Air Traffic	32h00
8.	Secondary Surveillance Radar	39h00
9.	Transfer ACFT Identity Control	16h00
10.	Unusual Situations	26h00
11.	Closing Ceremony	5h00
12.	On-the-job Training	3 months

Equipment:

- Radar classroom, simulator
- OHT Projector
- Video and TV system

054/013/RCAR Radar Control (Area)

Centre: QNCATC, Amman, Jordan	Version: 1
Language of Instruction: English	Duration: 8 weeks

Purpose of the Course:

This course, followed by a minimum of three months' practical experience under the supervision of an appropriately-rated Air Traffic Controller, will train air traffic controllers who have already successfully completed courses in both Radar Control (Approach) and Area Procedural (non-radar) to execute radar control of air traffic within an area radar sector to the standard required by the concerned Licensing Authority.

Objectives:

On completion of this course, the trainee will be able to:

- Explain the principles of operation of primary and secondary surveillance radar (SSR) systems.
- Operate radar equipment in accordance with TACC MATC 2 Section 5.
- Update and maintain a traffic display quickly and accurately.
- Identify primary and SSR radar targets using radar display in accordance with published radar procedures.
- Apply standard phraseology as applied to area radar control.
- Vector aircraft within an air-route or area radar sector.
- Maintain the prescribed radar or non-radar separation.
- Monitor known air traffic to provide aircraft concerned with information or advice relative to any significant deviations from their ATC clearances.
- Control aircraft within an air-route or area radar sector.
- Maintain a safe, orderly and expeditious flow of air traffic.
- Carry out transfer of radar identity/control including co-ordination with approach control, adjacent ACCs/sectors, or other ATC units in accordance with published procedures.
- Take appropriate action in the event of diversion aircraft, radio communication failure, radar equipment failure and/or emergency aircraft.

Target Population:

Will be mainly recruited from trainees having completed Radar Control (Approach) course.

Prerequisites:

- Trainees should have successfully completed Approach Radar Control training.
- Trainees should have command of the language of instruction.

Course Content:

	List of modules	Duration
0.	Course Introduction	2h00
1.	Radar Theory (Technical)	10h00
2.	Equipment Operation	16h00
3.	Strip Marking	9h00
4.	Radar Identification	13h00
5.	SSR	23h00
6.	Radar Vectoring	23h00
7.	Radar Separation	23h00
8.	Radar Monitoring	24h00
9.	Transfer ACFT Identity Control	26h00
10.	Abnormal Situation	26h00
11.	Closing Ceremony	5h00
	Total Duration	**200 hours**

Equipment:

- Radar Classroom, Simulator
- Chalkboard
- O/H projector and screen
- Video/TV system

054/020/ATCRR Reciclagen Práctica para Controladores de APP Radar (ATC Radar Refresher)

Centro: ICEA, São José dos Campos, Brasil	Versão: 1
Língua de instrução: Português	Duração: 2 semanas

Propósito do curso:

Proporcionar aos Controladores APP SP:

- Oportunidade de recordar conhecimentos básicos de fundamental importância para a operação real, que vão sendo esquecidos no dia-a-dia.
- Oportunidade de exercitar a habilidade de enfrentar situações especiais que raramente ocorrem.
- Prática para readaptação após um período de afastamento.

Objetivos:

Ao final deste curso, os alunos serão capazes de:

- Descrever a configuração e procedimentos de TMA.
- Descrever mensagens de situações especiais gravadas em uma fita de áudio.
- Especificar regras de transferência de controle radar, normas e procedimentos específicos para transferência e regras de coordenação prévia.

(No simulador:)

- Operar a posição de controle do simulador radar de tráfego aéreo SRBC.
- Efetuar separação de ANVs em trajetórias conflitantes.
- Identificar e "etiquetar" alvos primários na tela radar.
- Organizar o fluxo de tráfego aéreo para transferir, sequencialmente, as ANVs para órgão/setor adjacente.
- Ajustar proa, velocidade e altitude das ANVs, já sequenciadas pelos setores alimentadores, para interceptarem o curso de aproximação final.
- Vetorar ANV no curso de aproximação final de acordo com o procedimento de aproximação de vigilância (PPI).
- Reorganizar o fluxo de tráfego aéreo, no setor, em função das situações especiais, para atender o requerido pelas ANVs, ou o exigido pela situação.
- Reorganizar o tráfego aéreo, do setor de acordo com os "Procedimentos Operacionais Aplicáveis com a Degradação do Sistema Radar".
- Operar os equipamentos da posição operacional.

Grupo a ser capacitado:

Controladores radar de tráfego aéreo de APP São Paulo, já habilitados.

Pré-requisitos:

- Haver realizado os seguintes cursos:

  • EEAR-BCT ou OP-30
  • OP-01
  • OP-17
  • OP-02
- Já ser controlador habilitado de APP Radar.
- Ter pelo menos 1 ano de experiência de controle no APP-SP.

Conteúdo do curso:

	Módulos	**Duração**
0.	Introdução ao Curso	0h35
1.	Configuração e Procedimentos de TMA-SP	2h20*
2.	Fraseologia em Inglês de Situações Especiais	1h05*
3.	Posição de Controle do Simulador	2h45
4.	Assumir/Passar o controle de posição	1h40
5.	Separação Radar	1h20
6.	Identificação Radar Primário	1h10
7.	Transferências de ANVs	1h30
8.	Progressão de ANVs	1h30
9.	Aproximação Final	3h20
10.	Aproximação de Vigilância (PPI)	3h05
11.	Situações Especiais	3h20
12.	Perda de Visualização Radar	4h00
13.	Operação dos Equipamentos da Posição Operacional	6h45

* Mais dois dias para estudo individual em casa.

054/037/CRC Radar Control (Approach and Area)

Centre: QNCATC, Amman, Jordan	Version: 1
Language of Instruction: English	Duration: 8 weeks

Purpose of the Course:

This course, followed by a minimum of one month (subject to the conditions prescribed by Jordan Civil Aviation Regulation (JCAR)) practical experience working under the supervision of an appropriately-rated radar controller, will train air traffic controllers who have already successfully completed courses in both Approach and Area Procedural (non-radar) to execute Radar Control of air traffic within an Approach and/or Area Radar Sector to the standard required by the concerned Licensing Authority.

Objectives:

On the completion of the course, the trainee will be able to:

- Explain the principles of operation of Primary and Secondary Surveillance Radar (SSR) systems.
- Describe the factors which may affect the performance of Primary and Secondary Surveillance Radar systems.
- Describe the methods of displaying SSR derived information.
- Operate radar equipment in accordance to TACC MATC 2 Sect. 5.
- Update and maintain a traffic display to the required standard of accuracy.
- Identify radar targets using radar display in accordance with published procedures.
- Apply standard phraseology pertaining to Radar Control.
- Vector aircraft within radar control sector.
- Maintain the prescribed radar and/or non-radar separation.
- Sequence and maintain a safe, orderly and expeditious flow of air traffic.
- Monitor known air traffic to provide aircraft concerned with information or advice relative to any significant deviations from their ATC clearances.
- Carry out transfer of radar identity/control including coordination with Aerodrome-Approach-Area control, adjacent ACCs/sectors or other ATC units in accordance with published procedures.
- Take appropriate action in the event of a miss-approach aircraft, diversions aircraft, radio communication failure, radar equipment failure and emergency aircraft.

Target Population:

Will be mainly recruited from trainees having completed Approach and Area Procedural (non-radar) course.

Prerequisites:

- Trainees should have successfully completed Approach and Area Procedural (non-radar) course.
- Trainees should have a command of the language of instruction.

Course Content:

	List of Modules	Duration
1.	Course Introduction	2h00
2.	Radar Theory (Technical)	15h00
3.	Equipment Operations	13h00
4.	Radar Strip Marking	7h00
5.	Radar Identification	18h00
6.	SSR	17h00
7.	Radar Vectoring	18h00
8.	Radar Separation	17h00
9.	Radar Sequencing	28h00
10.	Radar Monitoring	20h00
11.	Radar Coordination	19h00
12.	Abnormal Situation	24h00
13.	Closing Ceremony	2h00

Equipment:

- Radar Classroom, Simulator
- O/H Projector and Screen
- Video/TV System
- Chalkboard

054/052/RCAP Radar Control (Approach) Course

Centre: CATC, Allahabad, India	Version: 1
Language of Instruction: English	Duration: 8 weeks

Purpose of the Course:

This course, followed by on-the-job training for a minimum period of one month under the supervision of a radar instructor or an experienced radar controller, will enable the trainee to obtain the Radar Control (Approach) rating for using the radar in providing approach control service to aircraft under his/her area of jurisdiction.

Objectives:

On completion of this course, the trainees will be able to:

- Describe the procedures to carry out the required performance checks and accept/reject the radar/communication equipment for operation.
- Control arriving, departing and over flying aircraft within the area of jurisdiction.
- Identify vector providing radar separation to achieve required sequencing of radar traffic.
- Conduct Surveillance Radar Approach.
- Expedite climb and descent by vectoring aircraft within the area of jurisdiction.
- Take appropriate action in the event of emergency, radio communication failure and missed approach.
- Take appropriate action in the event of deviation from the terms of air traffic control clearance, resolve potential traffic conflicts and assist the aircraft in their navigation.

Target Population:

Aerodrome Office/Senior Aerodrome Officer/Deputy Director

Prerequisites:

- Persons should not have crossed 48 years of age.
- Persons should have worked as a rated controller for a minimum period of 3 years in ATC unit.
- Persons should have satisfactorily worked in approach/area units independently for a minimum period of one year at the aerodrome positing.

Course Content:

	List of Modules	Duration
1.	Course Inaugural Session	2h40
2.	Radar Jurisdiction	9h15
3.	Principles of Radar Equipment	10h00
4.	Functions of Radar System	6h50
5.	Factors affecting Radar Display	12h45
6.	Use of Radar in ATS	10h30
7.	Radar Procedures	85h30
8.	Final Approach Procedures	37h15
9.	Unusual Occurrences	77h35
10.	Closing Session	2h00

Remarks:
Tests will be conducted as the course progresses. No special preparation time is given for these.

056/162/ATC RVSM RVSM Certification for Air Traffic Controllers

Centre: SPUCA, St. Petersburg, Russian Federation	Version: 1
Language of Instruction: English	Duration: 7 days

Purpose of the Course:

To provide qualified air traffic controllers with all necessary skills, knowledge and desirable attitudes to perform their professional tasks in the RVSM environment.

Objectives:

Upon completion of the course, the trainee will be able to:

- operate equipment on controller working position;
- process relevant flight plan information;
- evaluate traffic situation continuously;
- plan traffic control actions;
- conduct R/T communication;
- provide pilots with relevant information;
- separate aircraft;
- assist aircraft in abnormal situations;
- co-ordinate air traffic with adjacent sectors/units;
- interact with appropriate military bodies;
- perform ATC professional tasks in the RVSM environment.

Target Population:

Qualified air traffic controllers (working at ACC).

Prerequisites:

Candidates should have valid ATC licence and operational experience at an ACC not less than one year.

Course Content:

	List of Modules	Duration
0.	Course Introduction	1h30
1.	Regulations on RVSM	3h00
2.	Flight Planning	4h30
3.	ATC considerations in RVSM environment	6h00
4.	Changes of working position equipment	3h00
5.	Separation procedures	3h00
6.	Information provision for pilots	1h30
7.	Contingency procedures	4h30
8.	ATC coordination procedures	3h00
9.	Phraseology	3h00
10.	Simulation exercises	6h00

Equipment:

- 1 personal computer with Microsoft Office 2000 or higher installed
- 1 video projector
- 1 white board and a set of the markers
- 1 radar ATC simulator
- 1 RVSM related documents
- 1 regulative documents on ATC in Russian Federation
- 1 Instructor Guide - Module Plan 0 to 10
- 1 audio-visual materials on the CD - OSP 0-10
- 1 set of trainee materials - Module 0 to 10 handouts

059/078/CNS/ATM CNS/ATM for Air Traffic Controllers

Centre: ANTC, Riga, Latvia	Version: 1
Language of Instruction: English	Duration: 1 week

Purpose of the Course:

To provide senior ATC personnel with an understanding of developments in communications, satellite based navigation and surveillance technologies and their impact on air traffic management. The training is intended to prepare these personnel for the gradual phase in of new systems and to enable them to make informed recommendations to their civil aviation administration regarding ATC requirements.

Objective:

At the end of this training course participants will be able to evaluate developments in CNS/ATM technology and examine the impact of developments on ATC operational procedures and separation standards and ATM and Draft Recommendation For Phase In of CNS For A Selected Air Space/FIR.

Target Population:

Civil Aviation personnel employed as Air Traffic Controllers.

Prerequisites:

At least three years as an active Air Traffic Controller. Proficiency in understanding written English and fluency in either spoken English or Russian.

Course Content:

	List of Modules	Duration
0.	Course Opening	0.7 hours
1.	CNS/ATM Concepts	5.1 hours
2.	Communications	13.1 hours
3.	Navigation	13.4 hours
4.	Surveillance	10.3 hours
5.	Implementation	7.4 hours

059/133/ATC QA Air Traffic Services Quality Assurance Specialists

Centre: SATS, Christ Church, Barbados	Version: 1
Language of Instruction: English	Duration: 2 weeks

Purpose of the Course:

This course will train highly experienced air traffic services personnel to ensure that quality assurance programmes are implemented, in accordance with ICAO Standards and Recommended Practices as well as with individual State's regulations, to improve the efficiency of air traffic services by eliminating incidents.

Objectives:

After having successfully completed this course, the trainees will be able to:

- identify items relevant to the air traffic services system that should undergo quality assurance evaluation;
- prepare a plan for quality assurance evaluation activities;
- conduct an evaluation of the proficiency of air traffic services personnel;
- conduct an evaluation of the efficiency of air traffic services structures, procedures and equipment;
- prepare periodic technical reports and annual reports on air traffic services quality assurance activities;
- investigate, analyse and report on air traffic services incidents.

Target Population:

Senior Air Traffic Control Officers/Supervisors with the potentiality and dedication to implement and enforce an air traffic services quality assurance programme to international standards.

Prerequisites:

- senior air traffic control officer with at least three years experience at a supervisory level;
- a recognized qualification in supervisory management is desirable;
- good oral and written command of the language of instruction.

Course Content:

	List of Modules	Duration
1.	Introduction to Quality Assurance for an Air Traffic Services System	4hr45
2.	Preparing a Plan for Quality Assurance Evaluation Activities	6h00
3.	Conducting an Evaluation of the Proficiency of Air Traffic Services Personnel	11h00
4.	Conducting an Evaluation of Air Traffic Services Structures, Procedures and Equipment	10h15
5.	Preparing Technical Reports on Quality Assurance Activities	8h15
6.	Preparing an Annual Report on Air Traffic Services Quality Assurance Activities	5h15
7.	Investigating Air Traffic Services Incidents	3h45
8.	Analyzing Air Traffic Services Incidents	2h45
9.	preparing the Final Air Traffic Incident Investigation Report	1h50

Equipment:

- 1 PC with DVD player, MS Word and PowerPoint software;
- 1 data projector capable of projecting a computer image;
- 1 overhead projector (if data projector is not available);
- 1 projector screen;
- 1 white board and set of markers;
- 1 flip-chart easel, paper and markers;
- 1 video player;
- 1 television set.

073/006/PROA Propeller Maintenance

Centre: EAA, Addis Ababa, Ethiopia	Version: 1
Language of Instruction: English	Duration: 4 weeks

Purpose of the Course:

To enable trainees to acquire the necessary knowledge and skills to perform maintenance of aircraft propellers to the standards required for the licensing of Airframe and Powerplant Maintenance Technicians.

Objectives:

- identify the basic types of propellers, their components and parts, and explain their functions and operations;
- remove and install, disassemble and re-assemble propellers and components;
- check and adjust propeller blade tracking;
- measure and adjust propeller blade angle;
- adjust RPM on propeller governor;
- perform inspection and minor repair on propeller blades;
- troubleshoot propeller system problems.

Target Population:

Trainees who have completed High School at the minimum level and have been undergoing 14 months of training in airframe and power plant course of which propeller is a part.

Prerequisites:

- High School completion with acceptable scores in maths, physics and English.
- Must pass entry examination (written and interview).
- Must successfully undergo the 14 months' training in airframe and power plant course.

Course Content:

	List of Modules	Duration
0.	General introduction to 073/06/PROP Course	0h30
1.	Propeller fundamentals	7h00
2.	Propeller installation & removal	16h00
3.	Early model propellers	19h00
4.	Constant speed propellers' principles	4h00
5.	Constant speed propellers for light aircraft	20h00
6.	Constant speed propellers for large aircraft	22h30
7.	Propeller auxiliary System	5h00
8.	Propeller blade inspection	2h30
9.	Propeller blade minor repair	4h00
10.	Propeller balancing	4h00
11.	Propeller blade angle measurement	3h30
12.	Propeller blade tracking	4h00
13.	Governor adjustment	2h30
14.	Propeller control rigging	2h30
15.	Regulation pertaining to propeller	2h00
16.	Course summary	0h30

Equipment: OHT Projector and screen

075/005/NDT Non-Destructive Testing-Level 1 Operator

Centre: NCATO, Cairo, Egypt	Version: 1
Language of Instruction: English	Duration: 4 weeks

Purpose of the Course:

This course, coupled with at least 12 months' programmed On-the-Job Training under the supervision of a Non-Destructive Testing (NDT) Operator Level 2, will provide the trainee with the ability to carry out NDT operations on any type of aircraft to international standards.

Objectives:

On completion of this course, the trainee will be able to:

- Investigate existing defects in the component parts of an aircraft according to written instructions by an NDT Operator level 2 or from a NDT Manual or under supervision of an experienced NDT Operator level 2 or 3.
- Set up and verify the accuracy of the testing equipment and use it to test the defective component part of the aircraft, to record the results obtained and classify them in terms of written criteria.

Target Population:

- Primary: engineers and technicians working in the field of aircraft maintenance.
- Secondary: engineers and technicians in other industries using NDT.

Prerequisites:

- The candidates must have a good understanding of the English language.
- B.Sc. in Aeronautical Engineering or other engineers with at least one year's experience in the field.
- High School graduate with Basic Airframe and Powerplant Course (STG 073) and 2 years' experience in the field of aircraft maintenance.
- High School graduate with at least 5 years' experience as an aircraft mechanic.

Course Content:

	List of Modules	Duration
0.	Introduction to NDT	3 hours
1.	Theory & Practical (preparation and safety)	16.5 hours
2.	Theory & Practical (dye penetrant method)	16 hours
3.	Theory & Practical (magnetic particle inspection)	16.5 hours
4.	Theory & Practical (ultrasonic method)	34.5 hours
5.	Theory & Practical (Eddy current method)	23 hours
6.	Theory & Practical (radiographic method)	26 hours
	Visit to Egypt Air's NDT Workshop	13 hours
	Expert Panel - Discussion of practical aspects of NDT	3 hours
	OJT	12 months

Equipment:

- OHT projector.
- Tape/slide projector.
- Video and TV system.

075/041/NDT Non-destructive Testing - Level 2 Operator

Centre: NCATO, Cairo, Egypt	Version: 1
Language of Instruction: English	Duration: 4 weeks

Purpose of the Course:

This course will provide the trainees with the ability to design and carry out Non-Destructive Testing techniques, calibrate the used equipment, check the inspection requirements and decide the criteria to be accepted or rejected for any type of aircraft component.

Objectives:

- to be able to investigate, interpret and evaluate the existing defects in the component parts of an aircraft
- to be able to report and certify results according to the prescribed techniques
- to be able to supervise the work of Level 1 Operator
- to be able to design and apply new NDT techniques
- to be able to set up, calibrate, verify the accuracy of the equipment and make a diagnosis of the testing equipment

Target Population:

Maintenance Engineers and Technicians from the Egyptian Civil Aviation Authority (ECAA)

Prerequisites:

- B.Sc. In Aeronautical Engineering or other Engineering Diploma and at least one year's experience as Level 1 Operator in the field

or

- High School and Basic Airframe & Powerplant Course (STG 073), plus one year's experience as Level 1 Operator in the field of aircraft maintenance

Course Content:

The following instructional sequence is applied to each of four testing techniques (i.e., Dye Penetrant, Magnetic Particle, Ultrasonic, Eddy Current) taught in this course.

1. Principles of Test
2. Applied Procedures
3. Material and Equipment Used
4. Interpretation of Results of Test

Duration of training for each technique is as follows:

- Dye Penetrant (27h30)
- Magnetic Particle (26h10)
- Ultrasonic (28h30)
- Eddy Current (29h00)

Material and equipment required for each technique:

Dye Penetrant	Magnetic Particle	Ultrasonic	Eddy Current
Fluorescent spot check/Zyglo	(MAGNAFLUX)	Ultrasonic Tester Krautkramer	Eddy Current tester
white light and magnifying glass system	white light and magnifying glass system	Branson USK 7S	Defectometer H 2.835
Black light system	black light system	Normal single probe	Dr. Förster
Fe reference piece	Fe reference piece	Normal dual probe	Eddy Current Tester Ardrox
NFe reference piece	NFe reference piece	Angle probe 45°	Fe pencil probe
		Angle probe 60°	Fe spade probe
		Angle probe 70°	Fe flat probe
		Angle probe 90°	NFe pencil probe
		Calibration block IIW	NFe flat probe
		Calibration block V2	NFe spade probe
		Stepped calibration block	NFe hole probe- 1/4"
			NFe hole probe- 3/16"
			Fe Calibration Block

079/083/TEST Test Equipment: Selection, application and calibration

Centre: CATI, Hyderabad, Pakistan	Version: 1
Language of Instruction: English	Duration: 4 weeks

Purpose of the Course:

The main purpose of the STP is to determine the job description of Electronics Engineer and underlying duties, tasks, subtasks while using test equipment for repair and maintenance of aviation related electronic equipment / facilities at a site. Subsequently skills, knowledge and attitudes (SKAs) requirements are outlined to perform the tasks in a desirable manner.

On completion of this course the trainee (Electronics Engineer) will be able to select, apply and calibrate the test equipment in the maintenance of modern electronics equipment at airports, as per manufacturers instruction.

Objectives:

- Select and apply the most appropriate test equipment to diagnose the problem correctly in faulty electronic equipments as per manufacture's manual.
- Adjust the performance parameters and measurement to verify the accuracy of test equipment as per manufacturer' instructions.
- Describe the functions of commonly used operational test equipment to the level necessary to understand the reasons for maintenance and adjustments of test equipment.
- Carryout preventive maintenance of test equipment as per procedure prescribed.

Target Population:

The target population of the course are electronic engineers who are responsible for the repair and maintenance of aviation related electronic equipment/facilities at the airport and are performing the job of a “maintenance engineer”.

Prerequisites:

- An electronic engineer having done graduation in the discipline of electronic engineering OR having qualification considered equivalent to it.
- Should have at least one year field experience in the field of aviation.
- Should have good knowledge of English language.
- Basic knowledge of computer applications is desirable.

Course Content:

	List of Modules	Duration
0.	Introduction	5h00
1.	Operation of Oscilloscope	10h00
2.	Calibration of Oscilloscope	6h00
3.	Operation of Signal Generator	7h15
4.	Calibration of Signal Generator	5h15
5.	Operation of Frequency Counter	6h00
6.	Calibration of Frequency Counter	4h15
7.	Operation of Radio Communication Test Set	11h00
8.	Calibration of Radio Communication Test Set	7h00
9.	Operation of Thruline Watt Meter	5h00
10.	Calibration of Thruline Watt Meter	5h00
11.	Operation of Vector Volt Meter	12h30
12.	Calibration of Vector Volt Meter	5h30
13.	Operation of Logic Analyzer	12h00

079/158/AMT Tampico TB9 Line Inspections

Centre: NCAT, Zaria, Nigeria	Version: 1
Language of Instruction: English	Duration: 2 weeks

Purpose of the Course:

This course will enable aircraft maintenance engineers and technicians to perform line inspections on the Socata TB 9 aircraft in accordance with the NCAA approved standards.

Objectives:

On completion of the course, the trainee will be able to:

- manage ACFT documents;
- perform daily inspection;
- perform a test run-up;
- perform engine inspection;
- perform landing gear inspection;
- perform engine compartment inspection; and
- perform lubrication operations.

Target Population:

Aircraft Maintenance Engineers and Aircraft Maintenance Technicians.

Prerequisites:

Trainees should have:

- NCAT A & P Diploma or equivalent or alternatively, B.Sc. in Mechanical or Aeronautical Engineering; and
- command of English Language.

Course Content:

	List of Modules	Duration
0.	Course Introduction	1h30
1.	Aircraft Documents	5h
2.	Daily Inspection	6h55
3.	Test Run-Up	8h05
4.	Engine Inspection	6h05
5.	Landing Gear Inspection	5h35
6.	Engine Compartment Inspection	15h50
7.	Lubrication Operations	81h35

Equipment:

- computer with MS Word and PowerPoint software;
- data projector capable of projecting a computer image;
- overhead projector (if data projector is not available);
- projector screen;
- white board and set of markers;
- 1 TB 9 aircraft;
- 1 tool box;
- 1 mobile air compressor;
- 1 50 h inspection kit per 4 trainees;
- 1 pilot’s handbook;
- ample quantity of lubricants;
- 1 oil can, 1 brush and 1 grease gun; and
- lint free cloth and water.

101/039/AGAENG Control de Ruido Aeroportuario

Centro: SEPeCAC, Rio de Janeiro, Brazil	Versión: 1
Idioma de instrucción: Español	Duración: 2 semanas

Propósito del curso

Capacitar profesionales del área de medioambiente o las relacionadas directa o indirectamente a la aviación civil o infraestructura aeroportuaria, de manera que se promueva una participación mas activa en la búsqueda de alternativas para solucionar o amenizar los problemas causados por la contaminación sonora generada en aeropuertos.

Objetivos:

Ofrecer condiciones al alumno para desempeñar las siguientes funciones y tareas asociadas:

Función: Evaluar cuantitativamente el ruido
Tareas:
- identificar el tipo de medición a efectuar
- preparar los equipos necesarios a las mediciones de ruido
- elaborar informes
- auxiliar la implementación de un PCA (Programa Cons .Auditiva)

Función: Evaluar cualitativamente el ruido y las molestias causadas por las aeronaves
Tareas:
- calcular Leq, SEL y LDN.

Función: Proponer medidas para atenuar, controlar o solucionar problemas de ruido aeroportuario
Tareas:
- proponer medidas de reducción de ruido en operaciones de vuelo y suelo
- medir el ruido en busca de monitoreo
- desarrollar y analizar proyectos de tratamiento acústico

Función: Asesorar técnicamente autoridades aeroportuarias u organizaciones ambientales en asuntos relacionados al ruido aeroportuario
Tareas:

- asesorar técnicamente miembros del “CAEP”
- elaborar y analizar laudos de evaluación para fines de “EIA” y “RIMA”

Grupo a ser capacitado:

Profesionales de nivel medio o superior, en el área de ciencias con experiencia en uno de los siguientes ramos de actuación:

- planeamiento aeroportuario
- organismos oficiales en el área ambiental en cualquier nivel (Ayuntamiento, Provincia o de Estado)
- construcción o expansión de aeropuertos
- empresas aéreas

Requerimientos para el ingreso:

- Operación básica de micro computadores PC (sistemas operacionales DOS y Windows).
- Conocimientos de matemática elemental (álgebra, exponenciales y logaritmos).
- Manejo de calculadoras científicas.

Contenido del curso:

	Modulos	Duración
0.	Apertura / credenciamiento / orientaciones iniciales	4h00
1.	Introducción a la Acústica	4h00
2.	Unidades de medición de ruído y incomodo	4h00
3.	Equipos electroacústicos	2h40
4.	Operación básica de decibelímetro (SLM)	5h20
5.	Almacenamiento de datos en SLM´s	5h20
6.	Técnicas y normas de medición	2h00
7.	Técnicas de análisis de datos	2h40
8.	Informes de medición de ruido	1h20
9.	Operación avanzada de SLM´s	1h20
10.	Efectos fisiológicos del ruido	2h40
11.	Levantamiento de datos para el INM411	10h40
12.	Utilización del INM411	10h40
13.	Memorias técnicas	2h40
14.	Procedimientos operacionales de reducción de ruido en aeronaves	2h40
15.	Tratamiento acústico	8h00
16.	Monitoreo de ruido aeronáutico	2h40
17.	Políticas de control de ruido aeroportuario	2h40
18.	El Ruido como Factor de Impacto Ambiental	2h40
19.	Clausura / Evaluación Global por los alumnos	2h40

Equipos:

- 8-12 Calculadoras científicas
- 8-12 Materiales completos de diseño (2 escuadras, 1 regla, 1 transportador, 1 compás)
- 8-12 Conjuntos de apostillas, resúmenes de módulos, listas de ejercicios y pruebas
- 8-12 Medidores de nivel sonoro LD 712/720 con accesorios
- 6 Computadoras de mesa Pentium 100 MHz o superiores
- 1 Computadoras notebook Pentium 75 MHz o superiores
- 1 Retropoyector
- 1 “Data show” o equivalente
- 1 Video Cassette / Televisor
- 2 Videos para los módulos 1, 3, 10, 14, 15, 16, 17, 18
- 1 Conjunto de ejemplos de informes de medición de ruído
- 6 Juegos de Resortes
- 12m Cuerdas de dos grosores
- 1 Software “FAA-INM”, version 5.1 o superior
- 1 Software “Larson Davis utilites”
- 1 Amplificador audio 100w
- 1 Mixer 4 entradas
- 1 Osciloscopio digital de 2 canales
- 1 Generador de señal senoidal BK 105
- 2 Cajas de sonido
- 450 Transparencias para retropoyector
- 8-12 Conjuntos de documentos simulando procesos de aprobación de edificaciones en lo referente al ruido
- 5 Conjunto de normas técnicas que contengan
- NBR 10151
- NBR 10152
- NBR 12314
- NB 8572
- NB 101
- 1 Pizarra para anotaciones extras y solución de ejercicios
- 1 Estación de monitoreo continuo de ruido
- 8-12 Copias de los manuales de usuário de los SLM
- 8-12 Copias del libro “Noise Control” de la Bruel & Kjaer – Dinamarca

104/014/APL Airport Lighting Maintenance

Centre: CATI, Hyderabad, Pakistan	Version: 1
Language of Instruction: English	Duration: 5 weeks

Purpose of the Course:

After successful completion of this course, the trainee shall be able to:

- Explain the basic principles of Airport Lighting systems to the level necessary to understand the reasons for maintenance and adjustment procedures of components and systems.
- Operate/replace faulty components and adjust/align/calibrate system units within manufacturers' criteria and (where appropriate) to international standards, with the use of necessary tools, spares and manufacturers' manuals.

Objectives:

This course will enable the trainee to:

- Apply safety procedures for equipment handling.
- Use measuring equipment and describe the application of drive equipment.
- Move about the airside and carry out daily field checks.
- Appreciate the importance of APL systems.
- Calibrate/repair/maintain (1st line maintenance)/operate APL equipment as related to his/her responsibilities.
- Interpret and apply information derived from relevant manuals/instructions.
- Submit report to supervisor and make proper entries in relevant log books.

Target Population:

In-service technicians with at least one year maintenance experience in Airport Lighting or a closely related field.

Prerequisites:

Trainees should have:

- Satisfactorily completed secondary school (including math and physics) or equivalent education.
- Passed the Basic Electrical Maintenance Technician Course (at CATI) - or equivalent for trainees from the region.
- Good written and oral command of the English language.

Course Content:

	List of Modules	Duration
0.	Introduction	6h30
1.	Safety	2h20
2.	Drive/Measuring Equipment	5h35
3.	CCR Operations	5h20
4.	Operation of Airport Lighting System	8h20
5.	Airside Visit/Field Checks	5h55
6.	Maintenance of Signal Area Lighting System	5h35
7.	Maintenance of Approach Lighting System	10h20
8.	Maintenance of Runway Lighting System	22h05
9.	Maintenance of Visual Approach Aid	5h55
10.	Maintenance of Apron Area Lighting System	10h45
11.	Maintenance of Taxiway Lighting System	19h55
12.	Maintenance of CCR	8h00
13.	Calibration/Alignment of Approach Lighting System	5h10
14.	Calibration/Alignment of Visual Approach Aid	6h40
15.	Alignment of Runway Lighting System	7h15
16.	Alignment of Taxiway Lighting System	4h25
17.	Reporting/Log Book	2h55
	Closing Activities	6h30
	Two days visit to a major airport	13h00

Equipment:

- OHT and Slide (35mm) Projectors
- Screen
- Safety Trainer
- Airport Lighting Equipment and Controls

104/114/APSS/TOSHIBA Airfield Power Supply System (APSS)

Centre: CATC, Manila, Philippines	Version: 1
Language of Instruction: English	Duration: 6 weeks

Purpose of the Course:

To equip Airfield Power Technicians (APT) with knowledge and skill needed to maintain Airfield Power System consisting of Diesel Engine Generator (DEGS), Automatic Voltage Regulator (AVR) and Uninterruptible Power Supply (UPS) so as to provide the airport a continuous and reliable power supply especially during commercial power failure.

Objectives:

Given a complete set of power supply system, the trainees will be able to perform on its Diesel Engine Generator System (DEGS), Automatic Voltage Regulator (AVR) and Uninterruptible Power Supply (UPS) the following maintenance tasks:

- Operational technical services
- Periodic technical services, and
- Troubleshooting

In accordance with the Toshiba Operations and Maintenance Manual

Target Population:

Personnel who are currently or will be assigned as Airfield Power Supply Maintenance Technician.

Prerequisites:

- Be able to read, write and speak in English.
- Finished at least secondary education.

Course Content:

	List of Modules	Duration
A.	Course Opening	1 hour
1.	DEGS Serviceability Checks	5 hours
2.	DEGS Operational Technical Services	6 hours
3.	AC Generator Serviceability Checks	6 hours
4.	Diesel Engine Systems Checks	21 hours
5.	Control Cubicle Checks	12 hours
6.	DEGS Troubleshooting	18 hours
7.	AVR Operational Technical Services	12 hours
8.	AVR Periodic Maintenance	12 hours
9.	AVR Troubleshooting	12 hours
10.	UPS Preparatory Checks & Manual Operation	16 hours
11.	UPS Automatic Simulation & Stopping	12 hours
12.	UPS Physical & Electrical Checks	10 hours
13.	UPS Troubleshooting	25 hours
Z.	Course Closing	3 hours

Equipment:

- 1 Diesel Engine Generator
- 1 Alternating Voltage Regulator
- 1 Uninterruptible Power System

105/022/CACM Central Airconditioning System Maintenance and Repair

Centre: NCATO, Cairo, Egypt	Version: 1
Language of Instruction: English	Duration: 8 weeks

Purpose of the Course:

On completion of this course and two weeks' on-the-job training, the trainee will be able to operate, maintain and repair Central Air Conditioning Systems.

Objectives:

On completion of this course, the trainee will be able to:

- Describe, with the aid of diagrams, the function of the complete system and its units.
- Determine the status of each unit of the system.
- Carry out the operating procedures of the system.
- Carry out preventive maintenance of CAC system and its components in accordance with the Maintenance Manual.
- Detect faults down to component level and replace and/or repair the defective parts.
- Adjust different parameters of the system (temperature, pressure, humidity, etc.) according to requirements of different zones

Target Population:

Maintenance Engineers and Technicians from the Egyptian Civil Aviation Authority (ECAA)

Prerequisites:

- B.Sc. in Mechanical Engineering after at least one year's experience in the field.
- High school or graduate with basic Electro-Mechanical course plus at least two years' experience in the field.

Course Content:

List of Modules	Duration
Welcome and introduction	0h55
Module 1	13h30
Module 2	5h00
Module 3	5h10
Module 4	8h00
Module 5	10h00
Module 6	18h35
Module 7	11h30
Module 8	7h30
Module 9	10h00
Module 10	6h40
Module 11	5h00
Module 12	10h00

Equipment:

- Overhead projector
- White screen

106/064/MCTPAV Airport Pavement Maintenance

Centre: NIAMR, New Delhi, India	Version: 1
Language of Instruction: English	Duration: 3 weeks

Purpose of the Course:

This course, followed by 6 months' practical experience under the guidance of a qualified engineer, will enable the participants to supervise the maintenance of airport pavements to internationally acceptable standards.

Objectives:

The main training objectives of this course are:

- Process co-ordination with Operations Department for NOTAM/closure of area, and oversee clearing of site after completion of the work.
- Prepare an estimate for painting and supervise repainting of the pavement markings.
- Be able to take, calculate and record levels.
  • Be able to test and select the materials for pavement works.
  • Oversee the preparation of hot mixes.
- Oversee the execution of mastic work.
- Oversee the various minor repairs on flexible pavements.
- Oversee local/complete resurfacing of flexible pavements.
- Oversee cleaning and re-filling of joints on rigid pavements.
- Oversee repair of cracks, panel edges, potholes, etc. on rigid pavements.
- Oversee cleaning and repair of drains.

Target Population:

Junior Engineers (Civil) and Assistant Engineers (Civil)

Prerequisites:

Junior Engineer (Civil) or Assistant Engineer (Civil)

Course Content:

	List of Modules	Duration
1.	Course Inaugural Session	1h30
2.	Operational Aspects	8h25
3.	Re-painting of Pavement Markings	10h25
4.	Taking and Recording Levels	9h10
5.	Material Testing and Preparation of Hot Mix	27h15
6.	Laying of Mastic	5h25
7.	Minor Repairs on Flexible Pavements	2h25
8.	Local/Complete Re-surfacing of Flexible Pavements	13h30
9.	Joint-Filling in Rigid Pavements	2h25
10.	Minor Repairs on Rigid Pavements	6h50
11.	Drainage Maintenance	3h10

109/067/BRDCON Bird Hazard Control Management

Centre: NIAMR, New Delhi, India	Version: 1
Language of Instruction: English	Duration: 5 days

Purpose of the Course:

On completion of this course, the participant will be able to observe and assess the hazards to safety due to bird activity in and around the airports and to identify and eliminate the sources of bird activity by using the various methods available to Airports Authority of India so as to reduce the bird strike rate in India from 1.2 strikes per 10,000 aircraft movements to acceptable International Standards (less than 1.0 strike) within a five-year period.

Objectives:

The main training objectives of this course are:

- Inspect the airport and its surroundings to identify and eliminate potential sources/causes for bird activity.
- Inspect the garbage disposal and removal system at the airport and take appropriate action against violators.
- Visually examine the aircraft in case of any bird hit and take appropriate action.
- Remove dead bird/remnants from the movement area.
- Execute the Activity Plan derived from the Action Plan by deploying and supervising manpower and equipment.

Target Population:

Airport Managers, Assistant Airport Managers and Security Supervisors

Prerequisites:

- Must have passed the ab initio Course, where prescribed, in the current rank.
- Must have at least 1 year's experience in airport operations.

Course Content:

	List of Modules	Duration
1.	Course Inaugural Session	1h30
2.	Introductory Module including Vehicular Movement, Communication and Logging	6h10
3.	Inspection and Identification of Sources of Bird Activity	9h00
4.	Garbage Discipline	3h00
5.	Post Bird-Hit Activity	2h30
6.	Execution of Bird Hazard Control Measures	5h35
7.	Closing Session	2h00

124/036/MEM Maintenance Management of Airport and Airway Facilities

Centre: CATC, Curug, Indonesia	Version: 1
Language of Instruction: English	Duration: 4 weeks

Purpose of the Course:

To provide maintenance managers with the knowledge and skills to plan, implement and evaluate maintenance programmes for Airport and Airway Facilities within Indonesia.

Objectives:

Given DGAC maintenance policy and operational requirements, the participant will plan, implement and evaluate the maintenance of Airport and Airway Facilities to meet operational needs defined by DGAC.

Target Population:

The chief of technicians and heads of sections at Directorate Electronic and Electrical Facilities or equivalent positions at PAP I and PAP II Headquarters and airports, who have attained at least Diploma II Qualifications.

Prerequisites:

Senior technicians, at least graduated Diploma II (Radio or Electric) or Engineer graduate.

- Have work experience (2 years or more)
- Have English-language ability

Course Content:

	List of Modules	Duration
1.	Course Introduction	1h30
2.	Operational Equipment Requirement	7h30
3.	Installation Plan	6h00
4.	Installation Activities	3h45
5.	Equipment Acceptance and Calibration	3h45
6.	Maintenance Manuals	2h15
7.	Scheduling Maintenance	4h30
8.	Maintenance Fault/Modification Control	3h00
9.	Manpower Planning	5h15
10.	OJT Requirement	5h15
11.	Prepare Objective and Tests	6h45
12.	Design OJT Curriculum	6h00
13.	OJT Implementation	5h15
14.	Spares Requirement	3h00
15.	Analyze Maintenance Data	3h45
16.	Budget for Operational Maintenance	2h15
17.	Evaluate Adequacy of Maintenance Program Plan	3h45

Equipment:

- Video Cassette: “Preparing Objectives”

124/106/ AIRFIELDOPS Basic Airfield Operations

Centre: QNCATC, Amman, Jordan	Version: 1
Language of Instruction: English	Duration: 2 weeks

Purpose of the Course:

This course, followed by a minimum of one month, practical experience working under the supervision of an Airfield Operations Supervisor, will train Airfield Operations Officers who have already successfully completed the Basic Airfield Operations Training Course.

Objectives:

On completion of this course, the trainee will be able to:

- State the airport rules and regulations
- Coordinate with appropriate authority
- Describe the aerodrome layout
- Inspect the simulated movement area
- Lead and marshal the simulated aircraft
- Control the airside ground movement
- Calculate the charges for aerodrome and air navigation services
- Apply airport emergency procedures

Target Population:

Will be mainly recruited from Jordan Civil Aviation Airports/Airfield Operations Staff.

Prerequisites:

- Newly recruited staff of Airfield Operations Division.
- The trainees should have good command of the language of instruction.

Course Content:

	List of Modules	Duration
0.	Course Introduction	1h00
1.	Coordination	6h15
2.	Aerodrome	12h30
3.	Inspection	8h00
4.	Leading and Marshalling	5h00
5.	Airside Ground Movement Control	4h30
6.	Charges for Aerodromes and Air Navigation	7h00
7.	Airport Emergency	7h00
	Closing Ceremony	2h00

Equipment:

- Laptop
- Data Show
- Screen
- Laser Pointer
- Over Head Projector, OHTs
- Aerodrome simulator equipped with receiving and transmitting techniques
- CDs, Floppies
- Easel
- Flip Chart

126/065/MGTDN AIR Manejo de Mercancías Peligrosas

Centro: ISFPA, Ciudad de Panamá, Panamá	Versión: 1
Idioma de instrucción: Español	Duración: 4 semanas

Propósito del curso

Preparar al personal que por sus funciones se le ha denominado “Inspector de Manejo de Mercancías Peligrosas” y poner en vigencia la implementación del Anexo 18 en los países de la región CAR/SAM que lo han adoptado para supervisar y controlar de forma responsable el Manejo de Mercancías Peligrosas en los recintos aeroportuarios, de igual forma insentivar a las Instituciones Nacionales responsables de la Aviación Civil para que pongan en vigencia un Reglamento Nacional sobre “Manejo de Mercancías Peligrosas”.

Objetivos:

Los objetivos a perseguir interpretados como comportamientos deseables de los alumnos después de haber recibido el curso, son los siguientes:

- Verificar los procedimientos de aceptación de la mercancía peligrosa por parte de los explotadores y el cumplimiento de sus responsabilidades en relación a su manejo.
- Identificar y clasificar las m/p almacenadas en las bodegas y dentro de las aeronaves.
- Verificar las condiciones de estiba de las m/p en almacenes y aeronaves, la correcta sujeción y segregación de las mismas.
- Inspeccionar los envases de m/p e identificar daños o fugas en los mismos así como evaluar sus condiciones de conformidad con las especificaciones correspondientes.
- Establecer los procedimientos de prevención de incidentes/accidentes para el manejo de m/p.
- Controlar la buena manipulación de las m/p tanto en la transferencia de la carga de y desde las aeronaves hacia las bodegas de almacenamiento, como en la carga y descarga.
- Examinar y controlar la información que debe contener el flujo documental de las m/p e indicar cuál debe ser la correcta información de conformidad con las regulaciones.
- Evaluar el plano de estiba (plano de carga), que contenga m/p.
- Inspeccionar el manejo de materiales radiactivos dentro de los recintos aeroportuarios y las naves que los transportan.

Grupo a ser capacitado:

El curso va dirigido al nuevo puesto de trabajo y para aquellas personas del área operativa, que tendrán relación directa con dicho inspector, es decir a personal operativo de las compañías explotadoras, almacenadoras, expedidores, etc., que trabajen al mismo nivel que el inspector y que por consecuencia tiene que conocer de los detalles técnicos que dicha persona exija para el mejor desenvolvimiento, sin riesgos, del manejo de las m/p dentro de los recintos aeroportuarios.

Requerimientos para el ingreso:

Dominio del idioma español, estudios secundarios completos preferiblemente con título de bachillerato en ciencias, ocupar cargo de:, o ser candidato a inspector de manejo de m/p, personal del área operativa de las compañías explotadoras, almacenadoras, expedidores, etc. que trabajen en el mismo nivel que el inspector y que por consiguiente requieran un mejor desenvolvimiento, sin riesgos del manejo de m/p.

Contenido del curso:

	Modulos	Duración
0.	Introducción del Curso	1h30
1.	Reglamentación de las Mercancías Peligrosas	3h00
2.	Instrucciones Técnicas sobre M/P, OACI/IATA	6h35
3.	Marca, Contramarcas y Etiquetas	10h45
4.	Control e inspección de la carga	8h50
5.	Embalajes	6h25
6.	Condiciones físicas de los embalajes	5h15
7.	Documentación	12h15
8.	Estiba, sujeción y segregación	8h35
9.	Procedimientos de aceptación	5h00
10.	Incidentes/Accidentes relacionados con las m/p	3h45
11.	Procedimientos de aceptación de los materiales radiactivos	7h50
12.	Control de la documentación, manipulación y prevención de incidentes/accidentes de las m/r	5h15
13.	Investigación de incidentes/accidentes relacionados con m/r.	5h00

Equipos:

- Monitor de TV
- Películas de video sobre el M/P “Safe transport of radioactive material”
- Pizarrón
- Tizas y/o marcadores
- Cinta limpiadora de VH
- Video grabadora (NTS)
- Sacapuntas eléctrico
- Cables de extensión de energía eléctrica
- Docena de lápices de carbón
- Resma de papel para anotaciones
- Rollo de cinta adhesiva ancho color chocolate.
- Engrapadora / con 1 caja de grapas
- Termómetro ambiental
- Manómetro
- Contador Geiger
- Dosímetro
- Higrómetro
- Manetómetro
- Linterna de manos
- Guentes de Latex (Resistentes a ácidos)
- Mascarilla con filtro
- Ropa protectora
- Lentes protectores
- Red para sujeción de carga
- Pallet de aluminio
- Cinta adhesiva tansparente angosta.

126/135/HAZMAT Handling Hazardous Materials (HAZMAT) Incidents

Centre: CATC, Muharraq, Bahrain	Version: 1
Language of Instruction: English	Duration: 2 weeks

Purpose of the Course:

The purpose of this course is to provide airport fire fighting officers with sufficient knowledge, required skills and attitudes to handle hazmat incidents at the airport in accordance with Bahrain CAA hazmat emergency prescribed procedure. The proficiency of graduates will be maintained through regular hot - seat exercises.

Objectives:

On the completion of the course, the trainee will be able to:

- develop hazmat emergency action plan;
- respond to hazmat emergency;
- control and confine dangerous goods incident;
- control and confine radioactive incidents;
- decontaminate personnel and equipment; and
- terminate hazmat emergency.

Target Population:

Primary target population are airport fire officers. Secondary target population are Bahrain Civil Defence Fire Officers, Bahrain Defence Force Fire Service Officers, fire officers from other countries in the region and watch room coordinators who will attend part of the course.

Prerequisites:

- have good command of the language of instruction;
- have high school certificate;
- have a minimum rank of junior fire officer;
- be medically fit.

Course Content:

	List of Modules	Duration
0.	Introduction/ Opening	1h30
1.	Develop Hazmat Emergency Action Plan	9h00
2.	Respond to Hazmat Emergency	6h00
3.	Control and Confine Dangerous Goods Incidents	6h00
4.	Control and Confine Radioactive Incidents	6h00
5.	Decontaminate Personnel and Equipment	7h30
6.	Terminate Emergency and	3h00
	Closing Ceremony	1h30

Equipment:

- 3 - 6 Emergency Response Guide Book;
- 1 ICAO Doc.9284;
- 1 Hazchem Data Software;
- For more details regarding PEAC windows and Pocket Pc refer to the manuals attached with the STP;
- 1 IATA D/G Regulations;
- 15 Station Officer Caps;
- 10 GD Model T30702-HCO/01 Navy;
- 10 First Response Tunics;
- 10 Badges “Airport Fire Service”;
- 10 Navy Trousers, GD Model 031102 HCO/05;
- 10 Galler F1E Yellow Fire Helmets;
- 10 GD Model 1504 Yellow Fire Helmets;
- 10 GD Model 5524 Leather Fire Boots;
- 10 GD Model Fire Fighter Gloves;
- 1 RDS 110 Multi Purpose Survey Service;
- 4 RAD60 RAD 60 Personal Alarm Dosimeter Range 1 USV-9.99Sv;
- 1 MICROCONT Unit H13422, Economy Lightweight Decontamination Shower with flexible hoses;
- 1 Cupola Decontamination Shelter;
- 1 Respirex Training Gas Tight Suits (Rubber);
- 4 Respirex Tychem GTB LL Gas Tight Suits;
- 4 PG Splash Suits in Tvyek F;
- 4 Vare;
- 1 Passport Five Star c/w fast Charger, Orange;
- 1 Nylon Instrument Jacket;
- 4 Protect Branch Pipe;
- 1 Video CD (VCD) (Parts I, II & III);
- 1 Pocket Computer (HP-IPAC-Palm Top Pilot);
- 9 PC, P III, 20GB Harddisk, 128MB RAM, DVD/CD, 17" Monitor; and
- 1 Data projector (Colour LCD Projector 2800 lumens).

131/035/AVMAN Aviation Management

Centre: CATI, Hyderabad, Pakistan	Version: 1
Language of Instruction: English	Duration: 4 weeks

Purpose of the Course:

To equip mid-level managers with SKAs that enable them to manage office and personnel and eventually improve the overall efficiency of the organization.

Objectives:

To enable CAA officers to take sound decisions while performing managerial duties in the hierarchy of the organization by:

- Managing the office resources efficiently and effectively.
- Handling official documents, official correspondence using computer in the office and maintaining record.
- Practicing techniques to efficiently and more effectively handle their office assignments by scheduling his/her activity and as per priority and available resources.
- Applying basic skills of writing a report for a relevant task.
- Determining manpower needs, their job descriptions and then plan and update human resources when required.
- Applying tools of management functions through building a workable team using motivation techniques, leadership styles. Organizing team work by examining/assigning and controlling team using various forms and work plan sheet.
- Solving personnel problems through appraising employee performance and handling grievances and apply CAA rules and regulations correctly to maintain discipline of the staff and evaluate the trainees performance.

Target Population:

All mid-level managers working in respective divisions/units as Aviation Manager.

Prerequisites:

- Trainee must be PG-7 or 8 officer and have at least 3 years experience in CAA.
- Trainee is a graduate from any recognized college/university.
- Trainee should have good written and oral command of English language.
- Trainee should have sound knowledge of computer operation and preferably have completed MS Office or Computer Application in Airport Management STP courses.

In exceptional cases:

- Satisfactorily completed intermediate or equivalent education and
- experience of more than ten years (avoid too big age difference within the group of trainees).

Course Content:

	List of Modules	Duration
0.	Introduction	4h50
1.	Plan Available Office Resources for Effective Aviation Management	18h30
2.	Process Official Documents	17h00
3.	Prepare Work Schedule	7h00
4.	Prepare Written Report	9h00
5.	Prepare Human Resources Plan	7h30
6.	Coordinate Team Work	22h00
7.	Assess Staff Performance	20h15

135/003/TMW TRAINAIR Training Managers Workshop

Centre: TRAINAIR Central Unit, ICAO	Version: 1
Language of Instruction: English	Duration: 2 weeks

Purpose of the Course:

To improve the planning, control and evaluation of training centres; to introduce modern techniques of training and of training management; and to enable a training centre to play a full part in the TRAINAIR network.

Objectives:

Using the course reference handbook, "The Training Management Guidelines", be able to:

- explain the objectives, activities and benefits of the TRAINAIR approach.
- apply systems analysis to the diagnosis of human resource problems and to the design of training solutions.
- manage course development projects.
- decide when computer-aided training is appropriate.
- assess procedures for providing training support and administrative support, including audio-visual techniques and automated record-keeping.
- organize and control training delivery.
- explain a procedure for long-range planning of training facilities and for design of specific facilities.

Target Population:

Directors and senior managers of Civil Aviation Training Centres

Prerequisites:

Members of the target population with written and oral language proficiency in the language of instruction.

Course Content:

	List of Modules	Duration
1.	Introduction	3h00
2.	The TRAINAIR programme	3h00
3.	The TRAINAIR methodology I - analysis	7h30
4.	The TRAINAIR methodology II - design	6h00
5.	Managing a CATC	4h30
6.	Managing course development projects	4h30
7.	Computer-assisted learning	3h00
8.	Training delivery	4h30
9.	Automated record-keeping	3h00
10.	Planning and design of training facilities	3h00

Equipment:

- OHT Projector and screen
- LCD Projector for computer

139/111/CAAM Computer Application in Airport Management

Centre: CATI, Hyderabad, Pakistan	Version: 1
Language of Instruction: English	Duration: 4 weeks

Purpose of the Course:

- To assess the effectiveness of the training at the learning level by determining if all training objectives were achieved.
- To diagnose failures in meeting the terminal objectives and to determine their causes.
- To revise the training material as required.

Objectives:

- Apply effectively the available computer software in the execution of relevant management tasks.
- Organize and use the data pertaining to airport management in computer while accomplishing various airports management tasks efficiently and effectively.
- Monitor and control the data base management system at small airports.

Target Population:

All CAA officers are expected to be the primary target population. However, the course may be additionally extended to all the aviation managers working at airports in later stage. The target population would be a homogenous population with similar socio-cultural background. In certain cases it may include some senior managers having coveted position in organizational hierarchy of CAA.

Prerequisites:

- CAA officers from PG7 to PG9.
- 5 years service experience having attended aviation management course.
- Should have adequate knowledge of English language.
- Should be conversant with basic PC operations.

Course Content:

	List of Modules	Duration
0.	Introduction	5h
1.	Windows 95 / 98 Basics	16h
2.	Using Word 97 tools for Maintaining Airport Management Data (Personnel Record)	19h30
3.	Using Word 97 tools for Maintaining Airport Management Data (Airport Return)	11h00
4.	Using Excel 97 Tools For Maintaining Airport Management Data	22h45
5.	Using Access 97 Tools for Maintaining and Creating Airport Management Data	16h35

139/144/CNS ATM CNS/ATM Technologies for ATS Managers

Centre: ANTC, Riga, Latvia	Version: 1
Language of Instruction: English	Duration: 1 week

Purpose of the Course:

To provide ATS managers with an understanding of developments in communications, satellite based navigation and surveillance technologies and their impact on air traffic management. The training is intended to prepare these personnel for the gradual phase in of new systems and to enable them to make general recommendations to their civil aviation administrations in accordance with ICAO Circular 278.

Objectives:

At the end of this course trainees will be able to:

- evaluate developments in CNS/ATM technologies; and
- make general recommendation regarding investment in the CNS equipment for a selected air space/FIR.

Target Population:

Civil Aviation personnel employed as ATS Managers.

Prerequisites:

- at least 3 years experience in Civil Aviation as an ATS Manager (ATC Supervisor, ATC Assessor, CAA Inspector, etc.); and
- proficiency in understanding written English and fluency in spoken English.

Course Content:

	List of Modules	Duration
0	Course Opening	1h00
1	ICAO CNS/ATM Concept	4h30
2	Institutional aspects of the CNS/ATM	4h30
3	Communication Technologies	4h30
4	Navigation Technologies	4h30
5	Surveillance Technologies	4h30
6	Operations in the CNS/ATM environment	2h00
7	Implementation of the CNS/ATM Technologies	1h30

Equipment:

- PC with Microsoft Office and access to the Internet;
- video projector with PC adapter;
- CPDLC/ADS simulator or demonstrations; and
- white board with a set of markers.

139/157/CNS ATM CNS/ATM Technologies for ATS Managers

Centre: ANTC, Riga, Latvia	Version: 1
Language of Instruction: Russian	Duration: 1 week

Purpose of the Course:

To provide ATS managers with an understanding of developments in communications, satellite based navigation and surveillance technologies and their impact on air traffic management. The training is intended to prepare these personnel for the gradual phase in of new systems and to enable them to make general recommendations to their civil aviation administrations in accordance with ICAO Circular 278.

Objectives:

At the end of this course trainees will be able to:

- evaluate developments in CNS/ATM technologies; and
- make general recommendation regarding investment in the CNS equipment for a selected air space/FIR.

Target Population:

Civil Aviation personnel employed as ATS Managers.

Prerequisites:

- at least 3 years experience in Civil Aviation as an ATS Manager (ATC Supervisor, ATC Assessor, CAA Inspector, etc.); and
- proficiency in understanding written Russian and fluency in spoken Russian.

Course Content:

	List of Modules	Duration
0	Course Opening	1h00
1	ICAO CNS/ATM Concept	4h30
2	Institutional aspects of the CNS/ATM	4h30
3	Communication Technologies	4h30
4	Navigation Technologies	4h30
5	Surveillance Technologies	4h30
6	Operations in the CNS/ATM environment	2h00
7	Implementation of the CNS/ATM Technologies	1h30

Equipment:

- PC with Microsoft Office and access to the Internet;
- video projector with PC adapter;
- CPDLC/ADS simulator or demo; and
- white board with a set of markers.

152/168/CAAEDP CAAEDP Basic Specialties in Unix for Aviation Applications

Centre: CATC, Ratmalana, Sri Lanka	Version: 1
Language of Instruction: English	Duration: 3 weeks

Purpose of the Course:

The purpose of this course is to provide the operational field with qualified technical staff adequately specialized in standard UNIX operating system to confidently maintain any UNIX based automated system; backed by specialized equipment training.

Objectives:

On the completion of the course the trainees will be able to:

- manipulate UNIX filing system;
- manage UNIX processes / jobs;
- edit text files;
- develop simple shell programs;
- perform basic network management functions; and
- perform basic system administration functions.

Target Population:

The primary target population is Air Traffic Safety Electronic Personnel (ATSEPs) responsible for maintaining the automated systems. The secondary target population is engineering and technical staff from any other department.

Prerequisites:

- diploma in electronics and telecommunication engineering or equivalent;
- adequate computer literacy; and
- good command of the language of instruction (English).

Course Content:

	List of Modules	Duration
0	Introduction/ Opening	1h30
1	Access the System	4h30
2	UNIX Filing System	15h00
3	Edit a Text File	12h00
4	UNIX Processes/ Jobs	12h00
5	Simple Shell Programs	15h00
6	Basic Networking Functions	12h00
7	System Administration Functions	16h30
0	Closing Ceremony	1h30

Equipment:

- 1 server running on UNIX (or flavour);
- 8 consoles/terminals connected to server (LAN or serial);
- 1 multimedia projector;
- 1 white board;
- 1 console for instructor (PC running on MS/WINDOWS also connected to server through Telnet or terminal emulator); and
- 1 open source subscription copy of UNIX (or flavour).

162/038/MICRO 8 Bit Microprocessor

Centre: QNCATC, Amman, Jordan	Version: 1
Language of Instruction: English	Duration: 4 weeks

Purpose of the Course:

This course, followed by a minimum period of 10 weeks working under the supervision of suitably qualified field personnel, will enable trainees to operate and maintain microprocessor-based equipment.

Objectives:

The course has been designed to enable trainees to:

- Describe the principles of operation of a µP system.
- Describe the internal register structure of 6800 µP.
- Program the microprocessor.
- Interface a representative µP to the outside world.
- Describe the operating principles of D/A and A/D converters.
- Describe the operation of Sensors and Transducers used in µP applications.
- Implement a certain µP application.

Target Population:

Will be mainly new entrants to the CAA who have the necessary pre-requisites. In addition, existing employees in the CAA, electrical/mechanical department and telecommunications department.

Prerequisites:

- A comprehensive knowledge of Electrical/Electronics principles including digital logic techniques, as specified in ICAO STG 161 (volumes I and II)
- Trainees should have a command of the language of instruction.

Course Content:

	List of Modules	Duration (in minutes)
1.	Course Introduction	400 m
2.	Microprocessor Concepts (1)	300 m
3.	Microprocessor Concepts (2)	350 m
4.	Introduction to Programming (1)	300 m
5.	Introduction to Programming (2)	300 m
6.	Microprocessor Chip (1)	300 m
7.	Microprocessor Chip (2)	250 m
8.	Microprocessor Chip (3)	400 m
9.	Microprocessor Interfacing (1)	600 m
10.	Microprocessor Interfacing (2)	350 m
11.	Microprocessor Application (1)	550 m
12.	Microprocessor Application (2)	500 m
13.	Microprocessor Application (3)	400 m
14.	On-the-job Training	10 weeks

Equipment:

- µP Trainer (Heathkit 3400)
- O/H Projector and Screen
- Oscilloscope
- Digital Multimeter

162/098/MICR32 32-Bit Microprocessor

Centre: CATC, Tehran, Iran	Version: 1
Language of Instruction: English	Duration: 10 days

Purpose of the Course:

This course will enable Electronic/Electrical Technicians/Engineers to improve system availability.

Objectives:

Upon completion of this course, trainees will be able to operate and maintain the 32-bit Microprocessor systems more efficiently and thus leading to a reduction in cost and improved system availability.

Target Population:

Electronic/Electrical Technicians/Engineers

Prerequisites:

Participants should have:

- Good command and knowledge on instruction language. (i.e. English)
- Sufficient knowledge and background on Microprocessor fundamentals and Digital Principles.

Course Content:

List of Modules / Duration:

	List of Modules	Duration
0.	Introduction to the course	1h30
1.	Microprocessor Activation	6h00
2.	Microprocessor operation I (Data Transfer)	14h00
3.	Microprocessor operation I (I/O Interfacing & Interrupt processing)	10h15
4.	Microprocessor Programming	12h00
5.	Microprocessor Troubleshooting	4h00
6.	Microprocessor Application	8h45
7.	RNFC & TNLC	7h00
8.	Unusual Occurrences	9h30
9.	Graduation Ceremony	3h00

Equipment:

- Personal computer with Microsoft PowerPoint and Excel.
- Data show (video projector).
- Compact Disc and Diskette containing the files.

163/010/HFVHF Aerocom/NEC HF/VHF Communications Maintenance

Centre: CATC, Addis Ababa, Ethiopia	Version: 1
Language of Instruction: English	Duration: 6 weeks

Purpose of the Course:

To enable trainees to acquire the necessary skills to perform periodic and corrective maintenance on high and very high frequency communications equipment in accordance with the manufacturers' manuals.

Objectives:

The course has been designed to enable trainees to:

- carry out high frequency radio TX preventive maintenance
- perform radio receiver preventive maintenance
- troubleshoot and repair/replace defective HF transmitters
- carry out high frequency radio receiver corrective maintenance
- clean, inspect and adjust VHF TX and RX units
- troubleshoot and correct a faulty VHF radio TX
- troubleshoot and repair/replace a faulty VHF receiver
- perform VHF radio antenna and transmission lines periodic inspections and checks (preventive maintenance)
- carry out radio transmission lines and antenna corrective maintenance

Target Population:

Technicians who graduated from Technical Schools majoring in Electronics and who afterwards took training in solid state device applications and digital techniques, theory of radio communication and introduction to microprocessor controlled circuit applications. These technicians should have at least 5 years of experience as junior technicians.

Prerequisites:

- Have graduated from Technical School in Electronics.
- Have satisfactorily attended and passed solid state and digital techniques, theory of radio communication and introduction to microprocessor courses.
- Should have at least 5 years' experience in electronic maintenance.
- Have written and oral command of the English language.

Course Content:

	List of Modules	Duration
0.	Introduction to 163/10/HF/VHF	3h00
1.	HF radio transmitter preventive maintenance	24h55
2.	HF radio receiver preventive maintenance	19h45
3.	HF radio transmitter corrective maintenance	16h10
4.	HF radio receiver corrective maintenance	14h10
5.	Very high frequency radio transmitter preventive maintenance	16h35
6.	Very high frequency radio receiver preventive maintenance	20h50
7.	Very high frequency radio transmitter corrective maintenance	11h20
8.	Very high frequency radio receiver corrective maintenance	12h10
9.	Radio Transmission Lines and HF antenna preventive maintenance	19h25
10.	Very high frequency radio antenna preventive maintenance	8h40
11.	Radio transmission lines and antenna corrective maintenance	12h25

163/040/VHF/Park Air VHF Communication System Maintenance (Park Air)

Centre: CATC, Allahabad, India	Version: 1
Language of Instruction: English	Duration: 3 weeks

Purpose of the Course:

To equip the VHF Communication System Maintenance Engineer/Technician with the knowledge and skills needed to maintain and control a ECIL/PARK AIR VHF Communication System for smooth and uninterrupted service.

Objectives:

On completion of this course, the trainees will be able to:

- Apply the standards and recommended practices as stated in ICAO Annex 10 volume I to the maintenance of VHF communication equipment.
- Recognize the Airport VHF communication system modules, monitor their operational characteristics and diagnose system failures.
- Control the VHF communication network operation for the smooth and uninterrupted operation.
- Carry out preventive and corrective maintenance of the system.

Target Population:

Personnel who are currently assigned or about to be assigned maintenance duties at the VHF Communication Equipment Room.

Prerequisites:

- Completion of the Electronic Assistants' Ab-initio course plus a minimum of two years' experience in the maintenance of any electronic communication equipment, OR completion of the Basic Technical Assistants' course plus a minimum of 2 years' experience in the maintenance of any electronic communication equipment.
- A degree in science with electronics as one of the subjects OR a diploma in electronics and radio communication.
- Ability to read, write and speak English.

Course Content:

	List of Modules	Duration
1.	Course Inaugural Session	1h20
2.	Airport VHF Communication System	6h00
3.	VHF Transmitter	21h00
4.	VHF Receiver	16h00
5.	VHF Equipment - Remote Control	9h20
6.	VHF Communication Control System	20h00
7.	VHF Equipment - Preventive Maintenance	8h20
8.	VHF Equipment - System Alignment	11h20
9.	VHF Equipment - Troubleshooting	7h20
10.	Graduation Ceremony	1h00

164/007/CVOR/Wilcox CVOR Maintenance

Centre: QNCATC, Amman, Jordan	Version: 1
Language of Instruction: English	Duration: 2 weeks

Purpose of the Course:

This course, followed by a minimum of 6 months' practical experience (OJT) working under the guidance of a Navigational Aids Supervisor in the field, will train Navigational Aids Technicians to operate and maintain the Wilcox 585A CVOR including fault diagnosis down to line replaceable units in accordance with local regulations and acceptable standards.

Objectives:

At the end of the course, the trainee will be able to describe the function and operation of a CVOR system, set up and operate the Wilcox 585A CVOR and perform routine tests to determine the system's status and make necessary adjustments to maintain its operational capability as specified in the Wilcox manuals and as approved by the local Civil Aviation Authority.

The trainee will also be able to recognize anomalous or faulty conditions, diagnose the cause to Line Replaceable Units (LRU) and repair or replace them.

Target Population:

Will be mainly new entrants to the CAA who have the necessary prerequisites. In addition, existing employees in the CAA Navigational Aids sections who have completed NDB training and have served the determined probationary period in the field.

Prerequisites:

Trainees should have satisfactorily completed:

- Secondary school or equivalent.
- Course 161 Basic aeronautical electronics and radio theory or equivalent.
- In addition, the trainees should have command of the language of instruction.

Course Content:

	List of Modules	Duration (in minutes)
1.	VOR principles	330 m
2.	Wilcox 585A VOR general description	270 m
3.	System operation	100 m
4.	System daily check	110 m
5.	System control	270 m
6.	Reference signal adjustment	360 m
7.	Identification and subcarrier signal adjustments	315 m
8.	Signal measurements and adjustment of variable signal and RF Power	460 m
9.	Alarm points checking and DC supply adjustment	470 m
10.	Monitor and field detector adjustment	185 m
11.	VOR system troubleshooting	580 m
12.	On-the-job training (OJT)	6 months

Equipment:

- OHT projector and screen
- Video and TV system
- Oscilloscope

164/012/DVOR/AWA DVOR Maintenance

Centre: CATC, Curug, Indonesia	Version: 1
Language of Instruction: English	Duration: 4 weeks

Purpose of the Course:

This course will provide Navigational Aids Maintenance Technicians with the knowledge and skills to enable them, under supervision, to operate and maintain the AWA DVOR equipment in accordance with the policies and procedures established by the DGAC - Indonesia.

Objectives:

Given an AWA DVOR in a non-operating state and job aid 1.1, the trainee will operate the DVOR in local, remote and maintenance modes according to procedures found in the AWA DVOR Manual.

Given manufacturer's manuals, maintenance checklist and test equipment, the trainee will perform preventative maintenance tasks according to the AWA DVOR Maintenance Manual.

Given manufacturer's manuals, schematic diagrams, block diagrams, tools and test equipment, the trainee will troubleshoot and repair a faulty DVOR to the module level within 30 minutes.

Target Population:

Supervisors and managers who require an understanding of the maintenance tasks in order to assess workload, prepare work schedules, assess training needs, etc., would derive some benefit from attending the course.

The training is designed primarily to meet the needs of technicians who are currently responsible for the maintenance of AWA DVOR equipment.

Prerequisites:

- Indonesia Diploma II/RTR, III/PTR graduated or equivalent
- Two years' work experience
- Ability in the English Language

Course Content:

	List of Modules	Duration
1.	Course Opening	1h20
2.	DVOR Principles	5h20
3.	AWA DVOR Block Diagram	5h05
4.	DVOR Operation	5h10
5.	Monitor & Control Block Diagram	2h45
6.	Carrier Generator Block Diagram	1h45
7.	Daily, Weekly and Monthly Maintenance	8h10
8.	Ground Check	6h00
9.	Power Supply Adjustment	5h45
10.	Signal Generator Block Diagram (SGN)	4h00
11.	Carrier Sideband Phase Adjustment	5h40
12.	Modulation Level Adjustment	2h55
13.	Master Timing Signal Adjustment	3h50
14.	Monitor Check	6h05
15.	Transmitter Power Check	8h10
16.	Frequency Adjustment	5h15
17.	Power Faults	4h25
18.	Control, Monitor and Signal Generator Faults	5h30

Equipment:

- AWA DVOR
- AWA DVOR VRB-51D Maintenance Handbook
- OHT Projector and Screen
- VCR and Monitor
- AWA DVOR Video Cassette (Part I & II)

164/017/DME/CSF 721 Distance Measuring Equipment Maintenance and Repair

Centre: NCATO, Cairo, Egypt	Version: 1
Language of Instruction: English	Duration: 6 weeks

Purpose of the Course:

On completing this course and one week on-the-job training, the trainee will be able to successfully maintain and repair the DME CSF 721, according to the manufacturer's instructions.

Objectives:

On completion of this course, the trainee will be able to:

- Describe, with the aid of block and schematic diagrams, the function of the complete system and its units.
- Set up and adjust the system to full operational status from acquiescent (silent) state.
- Carry out preventive maintenance of the DME system and its units according to the instructions given in the maintenance manual.
- Detect faults down to component level and repair the defective parts.
- Adjust the measurements of frequency, power and performance parameters to verify its accuracy using the necessary test equipment and circuit diagrams.

Target Population:

Maintenance engineers and technicians from the Egyptian Civil Aviation Authority (ECAA).

Prerequisites:

- B.Sc. in Communication Engineering after one year's experience in the field.
- High school or graduate with basic (161) and advanced (163) radio maintenance course plus at least two years' industrial experience in the field.

Course Content:

List of Modules	Duration
Welcome and introduction	1h15
Module 1	8h15
Module 2	22h50
Module 3	21h00
Module 4	20h00
Module 5	18h00
Module 6	11h20
Module 7	9h40
Module 8	23h20

Equipment:

- Overhead projector; white screen
- DME CSF 721
- Universal counter 2711 - 3 channels
- Tracking generator 8444A - opt 059
- Power meter 437B
- Frequency counter 5386A
- Spectrum analyzed Hewlett Packard (8590)
- Teltronix oscilloscope 244SB - 4 channels
- Printer Hewlett Packard (thin/c jet)
- Auxiliary power supply ALC 101-1
- Defective board and unit need to repaired

164/023/DME/Wilcox 596B WILCOX 596B - DME Maintenance

Centre: QNCATC, Amman, Jordan	Version: 1
Language of Instruction: English	Duration: 4 weeks

Purpose of the Course:

This course, followed by a minimum of 6 months' practical experience (OJT) working under the guidance of a Navigational Aids Supervisor in the field, will train Navigational Aids Technicians to operate and maintain the Wilcox 596B DME including fault diagnosis down to line replaceable units in accordance with the Wilcox 596B DME manufacturer's manuals.

Objectives:

Upon completion of this course, the trainee will be able to:

- Describe, with the aid of block and schematic diagrams, the function and operation of the system.
- Set up and adjust the system to full operational status.
- Use special test instruments, tools and devices required to set up and maintain the system, including built-in test facilities.
- Perform routine tests and inspections to determine the operational status of the system.
- Perform all routine preventative maintenance procedures as specified in the approved CAA technical documentation.
- Recognise the existence of anomalous or faulty conditions and diagnose the cause down to line replaceable units (LRU) level.
- Repair faults at LRU level by replacement with serviceable items.

Target Population:

Will be mainly new entrants to the CAA who have the necessary pre-requisites. In addition, existing employees in the CAA Navigational Aids sections who have completed VOR training and have served the determined probationary period in the field.

Prerequisites:

Trainees should have satisfactorily completed:

- Secondary school or equivalent.
- Course 161 - Basic Aeronautical Electronics and Radio Theory or equivalent.
- In addition, the trainees should have command of the language of instruction.

Course Content:

	List of Modules	Duration
0.	Course Introduction	1h30
1.	General DME Theory	3h40
2.	Description of Wilcox 596B DME	3h35
3.	DME Equipment Operation	7h20
4.	Transponder Circuit Analyses	8h00
5.	Pulse Count	2h35
6.	Ident. & Reply Pulse Characteristics	3h35
7.	Station Output Power	9h05
8.	Monitor Circuit Analyses	10h10
9.	Interrogation Pulse Characteristics	3h30
10.	Interrogation Pulse Repetition Rate	5h55
11.	Reply Efficiency	7h55
12.	System Alarm	11h50
13.	Local and Test Units	7h30
14.	DME Equipment Troubleshooting	3h50
15.	On the Job Training (OJT)	6 months

Equipment:

- Wilcox 596B DME Station with Manuals
- Blackboard/Whiteboard
- OHT Projector and Screen
- Pads, Pencils, Colour Markers, etc.
- Oscilloscope (2 Ch.) Covering DME Frequency
- Frequency counter
- RF Micro-wattmeter
- Trimmer
- Multimeter

164/055/DME/AWA DME Maintenance (AWA GCEL-752)

Centre: CATC, Allahabad, India	Version: 1
Language of Instruction: English	Duration: 220 hours

Purpose of the Course:

To equip the DME Maintenance Engineer with the knowledge and skills needed to maintain AWA/GCEL-752 DME for a smooth and uninterrupted service.

Objectives:

On completion of this course the trainees will be able to:

- Apply the standards and recommended practices as stated in ICAO Annex 10 volume I to the maintenance of Distance Measuring Equipment (DME);
- Recognize the AWA/GCEL-752 DME modules, explain their operation and monitor their operational characteristics; and
- Carry out Preventive and Corrective Maintenance of the AWA/GCEL-752 DME for a smooth and uninterrupted operation.

Target Population:

Personnel who are currently assigned or about to be assigned maintenance duties at the AWA/GCEL-752 DME Unit.

Prerequisites:

- A degree in science with electronics as the subject or a diploma in Electronics/Telecommunications or its equivalent and successful completion of Senior Technical Assistants Course;

or

- A degree in Electronics/Telecommunications or its equivalent and successful completion of Electronic Officers' Ab-initio course;

or

- A degree in Electronics/Telecommunications or its equivalent and successful completion of Technical Officers' familiarization course.

- A minimum of two years experience in the maintenance of navaid equipment.

Course Content:

	List of Modules	Duration
1.	Course Inauguration	1h20
2.	DME Principles	8h20
3.	DME Specifications	8h20
4.	GCEL-752 Description and Operation	19h20
5.	Power Supply Modules	18h20
6.	Test Interrogator Module	20h20
7.	Receiver/Video Module	14h20
8.	RF Amplifier Modules	15h20
9.	Monitor Module	20h20
10.	Control Panel and test Facilities	12h00
11.	Performance Testing and System	45h20
12.	Preventive Maintenance	13h20
13.	Corrective Maintenance	22h20
14.	Graduation Ceremony	1h20

164/068/ILS/NORMARC ILS Maintenance (NORMARC)

Centre: CATC, Allahabad, India	Version: 1
Language of Instruction: English	Duration: 6 weeks

Purpose of the Course:

To equip the ILS Maintenance Engineer with the knowledge and skills needed to maintain Normarc NM 3513B/NM 3533 B ILS equipment for a smooth and uninterrupted service.

Objectives:

On completion of this course the trainees will be able to:

- Apply the standards and recommended practices as stated in ICAO Annex 10 volume I to the maintenance of Instrument Landing System (ILS);
- Recognise the Normarc NM 3513 B/NM 3533 B ILS equipment modules, explain their operation and monitor their operational characteristics; and
- Carry out Preventive and Corrective Maintenance of the Normarc NM 3513 B/NM 3533 B ILS equipment for a smooth and uninterrupted operation.

Target Population:

Personnel who are currently assigned or about to be assigned maintenance duties at the Normarc ILS Unit

Prerequisites:

- A degree in Electronics or Telecommunication or science with electronics as one of the subjects or a diploma in Electronics/Telecommunications or its equivalent.
- A comprehensive knowledge on 8 bit microprocessor systems.
- A minimum of two years experience in the maintenance of navaid equipment.

Course Content:

	List of Modules	Duration
0.	Course Inauguration	1h20
1.	ILS Principles	15h30
2.	Specifications of LLz and GP	11h30
3.	Normarc ILS System Description and Operation	11h00
4.	Transmitter Section	10h40
5.	Monitor Section	14h20
6.	Control and Display Section	10h30
7.	Performance Testing and System Alignment	32h25
8.	Preventive Maintenance	23h25
9.	Flight Calibration	9h00
10.	Corrective Maintenance	31h25
11.	Farewell Ceremony	1h20
12.	On-the-Job Training	34h00

164/087/VOR/SEL 4000 Maintenance VOR SEL 4000

Centre: ONDA, Casablanca, Maroc	Version: 1
Langue d'instruction: Français	Durée: 4 semaines

But du cours:

Rehausser le niveau des techniciens opérant sur le système VOR SEL 4000 au niveau 3 de maintenance

Objectif(s) du cours:

Conditions:

En conditions simulées, en utilisant les aides au travail appropriées

Comportement:

Le technicien doit:

- contrôler les paramètres de l'équipement
- identifier et réparer les pannes en cas d'anomalies

Normes:

- conformément aux normes OACI (Annexe 10 volume I)
- selon les instructions du constructeur contenues dans le Manuel Technique Tome 2

Population cible:

Techniciens de maintenance VOR SEL 4000, issus d'un centre de formation de l'aviation civile

Conditions d'admission:

- Être technicien en télécommunications aéronautiques, issu d'un Centre de formation de l'aviation civile.
- Avoir des origines socioculturelles identiques et accomplissant la maintenance du VOR SEL 4000.
- Avoir des connaissances générales sur le VOR.
- Réussir le test de pré-requis.

Contenu du cours

	Liste des Modules	Durée
1.	Familiarisation avec VOR S4000 et utilisation du KDI	11h15 + Test de maîtrise
2.	Faire l'inspection hebdomadaire	4h25 + Test de maîtrise
3.	Relever les données BITE DATA	2h00 + Test de maîtrise
4.	Faire l'inspection mensuelle	6h00 + Test de maîtrise
5.	Faire la maintenance avant passage de l'avion labo	8h00 + Test de maîtrise
6.	Faire la maintenance au cours du passage de l'avion labo	4h30 + Test de maîtrise
7.	Faire la maintenance après passage de l'avion labo	2h15 + Test de maîtrise
8.	Identifier la / les panne(s) correspondant aux alarmes affichées	10h25 + Test de maîtrise
9.	Réparer le(s) panne(s), vérifier l'état OK du BITE RESULT et remettre l'équipement en service	5h05 + Test de maîtrise

165/008/Radar/CSF Radar Systems and Maintenance

Centre: EASA, Nairobi, Kenya	Version: 1
Language of Instruction: English	Duration: 12 weeks

Purpose of the Course:

To prepare the trainee to carry out radar maintenance tasks under supervision, and to enter a specific radar equipment course if the equipment used during training is different from equipment found in actual working places.

Objectives:

- Given all necessary tools, manuals, and equipment the trainee, under supervision, will operate the radar system (i.e., primary radar transmitter, receiver and MTI system, SSR, the display and all associated equipment).
- Given all the necessary tools, test gear and technical manuals, the trainee, under supervision, will perform preventive maintenance checks on the complete radar system as per a preventive maintenance checklist.
- Be able to locate faults, replace cards in all sub-units of the radar system and any other tasks as per a corrective maintenance checklist.

Target Population:

Radio maintenance technicians and supervisors.

Prerequisites:

Should have completed an aeronautical electronics and radio theory course. Proficient in English language or language of instruction.

Course Content:

	List of Modules	Duration
1.	Opening	1h40
2.	Introduction to safety	6h40
3.	The primary radar operation	8h12
4.	Transmitter daily, preventive maintenance	22h00
5.	Transmitter weekly, preventive maintenance	17h00
6.	Transmitter monthly, preventive maintenance	13h10
7.	Transmitter corrective maintenance	35h10
8.	Receiver preventive maintenance	21h25
9.	Receiver corrective maintenance	25h30
10.	TE802 (test equipment) corrective maintenance	14h30
11.	TPL801 preventive maintenance	19h55
12.	TPL801 corrective maintenance	22h21
13.	CD820 corrective maintenance	13h20
14.	SSR preventive maintenance	23h00
15.	SSR corrective maintenance	25h32
16.	EV760 corrective maintenance	16h25
17.	PR800T corrective maintenance	13h15
18.	ING1010 corrective maintenance	8h30
19.	TL810 (Remote control unit) corrective maintenance	8h15
20.	End of course, assessment and issue of certificates	2h00

Equipment:

- OHT projector and screen
- Film projector

169/009/MWLMR Microwave Link Systems: Maintenance and Repairs

Centre: NCATO, Cairo, Egypt	Version: 1
Language of Instruction: English	Duration: 6 weeks

Purpose of the Course:

This course, coupled with two weeks OJT under supervision, will provide the trainee with the ability to successfully maintain and repair any type of microwave Link System according to the manufacturer's instruction.

Objectives:

On completion of this course, the trainee will be able to:

- Carry out daily and periodic maintenance of the Microwave Link Equipment according to the instructions given in the Maintenance Manual Instruction Books.
- Check measurements of frequency, power, and performance parameters at regular intervals against reference values listed in the Maintenance Manual Instruction Books of the equipment.
- Detect faults down to component level and repair the defective Microwave Link Equipment and adjust the measurements of frequency, power and performance parameters to verify its accuracy, given the appropriate test equipment and circuit diagrams.

Target Population:

The course is suitable for newly appointed Engineers / Technicians working with the Microwave Link Communications System.

Prerequisites:

- B.Sc. in Electronics and Communications with at least two years' experience in the field, or
- High School Graduate with at least two years' technical training and at least four years' experience in the field. During these four years, the trainee must have completed both the Basic and Advanced Radio Maintenance Courses.

Course Content:

	List of Modules	Duration
1.	Welcome by Chairman	0h30
2.	Introduction to MWL Course	1h00
3.	Module 1 (theory): Basic Principles and Overview of MWL System	8h20
4.	Module 1 (practical): Basic Principles and Overview of the System & Questionnaire	6h05
5.	Module 1 Tests and Answers	2h20
6.	Module 2 (theory): Radio Equipment (I)	3h30
7.	Module 2 (practical): Radio Equipment (I) & Questionnaire	5h10
8.	Module 2 Tests and Answers	1h20
9.	Module 3 (theory): Equipment (II) & Questionnaire	5h10
10.	Module 3 (practical): Equipment (II) & Questionnaire	4h15
11.	Module 3 Tests and Answers	2h35
12.	Module 4 (theory): Link Budget Calculation	7h40
13.	Module 4 Questionnaire	0h05
14.	Module 4 Tests and Answers	1h00
15.	Module 5 (theory): Multiplexing Equipment (I) (FDM)	6h40
16.	Module 5 Questionnaire	0h10
17.	Module 5 Tests and Answers	1h20
18.	Module 6 (theory): Multiplexing Equipment (II) (TDM)	5h25
19.	Module 6 (practical):Multiplexing Equipment (II) & Questionnaire	5h15
20.	Module 6 Test and Answers	3h50
21.	Module 7 (theory): Auxiliary Equipment (I) - EOW & Telesignalling	8h25
22.	Module 7 Questionnaire	0h05
23.	Module 7 Tests and Answers	1h45
24.	Module 8 (theory): Auxiliary Equipment (II) - Power System	1h40
25.	Module 8 Questionnaire	0h10
26.	Module 8 Tests and Answers	0h50
27.	Module 9 (theory): Corrective and Preventive Maintenance	3h00
28.	Module 9 (practical): Corrective and Preventive Maintenance & Questionnaire	11h05
29.	Module 9 Tests and Answers	2h30
30.	Visits to Communication Stations	25h00
31.	Closing Ceremony & Distribution of Certificates	1h25
32.	On-the-Job Training	2 weeks

Equipment:

- OHT projector and screen

169/042/SATCOM Satellite Communication System Maintenance and Operation

Centre: NCATO, Cairo, Egypt	Version: 1
Language of Instruction: English	Duration: 7 weeks

Purpose of the Course:

On completing this course and one week OJT the trainee will be able to operate and maintain the Satellite communication system.

Objectives:

On completion of this course, the trainee will be able to:

- Investigate, interpret and evaluate the existing defects in the component parts of Satellite communication system.
- Adjust the satellite receivers.
- Operate the satellite system.
- Maintain the system and supervise the work of the operator.

Target Population:

The primary target population for whom the course is to be developed consists of Maintenance Engineers and Technicians from the Cairo Air Navigation Centre (CANC). The secondary population may be considered to be Engineers and Technicians in the field of Telecommunications to be trained on this course.

Prerequisites:

- B.Sc. in Electronics and Communications with at least two years' experience in the field, or
- High School Graduate with at least two years' technical training and at least four years' experience in the field. During these four years, the trainee must have completed both the Basic and Advanced Radio Maintenance Courses.

Course Content:

	List of Modules	Duration
1.	Welcome and introduction to Satellite Communications	0h10
2.	Module 1-Theory	7h40
3.	Module 1-Practical	3h00
4.	Module 1-Test and Answer	2h40
5.	Module 1-Questionnaire	0h10
6.	Module 2-Theory	20h40
7.	Module 2-Practical	1h30
8.	Module 2-Test and Answer	4h05
9.	Module 2-Questionnaire	0h15
10.	Module 3-Theory	5h50
11.	Module 3-Practical	3h00
12.	Module 3-Test and Answer	3h50
13.	Module 3-Questionnaire	0h20
14.	Module 4-Theory	6h20
15.	Module 4-Practical	3h00
16.	Module 4-Test and Answer	4h10
17.	Module 4-Questionnaire	0h20
18.	Module 5-Theory	3h45
19.	Module 5-Practical	3h00
20.	Module 5-Test and Answer	3h05
21.	Module 5-Questionnaire	0h10
22.	Module 6-Theory	7h15
23.	Module 6-Practical	3h00
24.	Module 6-Test and Answer	4h15
25.	Module 6-Questionnaire	0h20

Equipment:

- 30 Handouts (Training Manuals)
- 1 Set of Slides
- 1 Projector
- 1 Computer; (IBM PC).
- 1 Satellite receiver for weather broadcasting.
- 2 Signal processors.
- 1 Antenna (parabolic dish) for geo-stationary satellite.
- 1 Antenna (Yagi and turn style) for orbital satellite.
- 1 Controller for the antennas.
- 2 audio cassettes
- 2 oscilloscopes

169/092/COM MTC CNS/ATM CNS/ATM Technologies for Technicians

Centre: ANTC, Riga, Latvia	Version: 1
Language of Instruction: English	Duration: 2 weeks

Purpose of the course:

At the end of this training course participants will be able to evaluate developments in CNS/ATM technology and to make recommendation regarding investment in the CNS equipment for a Selected Air Space/FIR.

Objective:

On completion of this course, the trainee will be able to:

- Determine the priorities on CNS/ATM equipment implementation
- Recommend investment in communication equipment
- Recommend investment in navigation equipment
- Recommend investment in surveillance equipment
- Evaluate the role and the performance of new equipment, which is under implementation

Target Population:

Civil Aviation personnel employed as Air Navigation Service Maintenance Senior Engineers and Engineers.

Prerequisites:

- At least 3 years as an Air Navigation Service maintenance engineer
- Proficiency in understanding written English and fluency in either spoken English or Russian

Course Content:

	List of Modules	Duration
0.	Course Opening	1h00
1.	ICAO CNS/ATM Concept	6h30
2.	Institutional Aspects of the CNS/ATM	4h30
3.	Communication Technologies	10h30
4.	Navigation Technologies	10h30
5.	Surveillance Technologies	9h00
6.	Operation in the CNS/ATM Environment	6h00
7.	Implementation of the CNS/ATM Technologies	3h00
8.	CNS/ATM Equipment	3h00

Equipment:

- PC with Microsoft Office 2000 and access to the Internet
- Video Projector with PC Adapter
- VCR
- TV
- CPDLC/ADS Simulator
- Aviation GPS receiver (e.g. Garmin 95)
- Whiteboard with a set of markers

172/024/AMSSS Automatic Message Switching System Supervisor

Centre: CATC, Allahabad, India	Version: 1
Language of Instruction: English	Duration: 6 weeks

Purpose of the Course:

- To develop the managerial skills needed by an AMSS Supervisor to oversee the management and administration of an AMSS unit.

- To equip the AMSS Supervisor with the knowledge and skills needed to maintain, operate and control a TUL-AMSS for the smooth and uninterrupted flow of messages.

Objectives:

On completion of this course, the trainees will be able to:

- Oversee the management and administration of an AMSS Unit.
- Apply the rules and procedures as stated in ICAO Doc 8259 for AFTN.
- Recognise the AMSS system modules, monitor their operational characteristics and diagnose system failures.
- Install the system software and operate the master, standby and workstation consoles.
- Control the AMSS operation for the smooth, uninterrupted flow of messages.
- Examine system statistics and effect corrective actions, if necessary.

Target Population:

Personnel who are currently assigned or about to be assigned supervisory duties at a TUL-AMSS Unit.

Prerequisites:

- Completion of the Electronic Officers' ab-initio course plus a minimum of two months' hands-on experience on an AMSS Unit OR Completion of the Special Communication Assistants course plus a minimum of 5 years' experience as an AFS Communicator
- Typing speed of a minimum of 20 wpm on a QWERTY keyboard
- Proficiency in both written and oral English

Course Content:

	List of Modules	Duration
1.	Course Inaugural Session	1h30
2.	AFTN Theory and Practice	13h30
3.	AMSS Configuration and Components	33h00
4.	AMSS Basic Operation	14h00
5.	AMSS Supervisory function	30h00
6.	AMSS Software Installation and Station Parameters	21h30
7.	AMSS Faults - Trouble shooting	38h30
8.	AMSS Operational Management	7h30
9.	AMSS Personnel Management	12h30
10.	Closing Session	1h00

Equipment:

TUL-AMSS Equipment consisting of:

- uninterrupted power supply
- one server workstation
- five cluster workstations
- one multiplexer
- one VSAT satellite link
- five printers
- white board and marking pens
- overhead projector and transparencies
- colour television receiver (PAL system)
- video cassette player (VHS format)
- video tape to AMSS software installation

176/021/ACS Aeronautical Communications Supervisor

Centre: EASA, Nairobi, Kenya	Version: 1
Language of Instruction: English	Duration: 8 weeks

Purpose of the Course:

To prepare candidates to effectively perform first-level supervisory duties in aeronautical communications units, by lecture/discussion, film/video and practical exercise techniques, covering subjects of human relations, performance appraisal, problem solving, planning and communications operations. These subjects are to include elements of the modern management theory of Total Quality Management. An average grade for the end of module examinations of at least 70% should be attained for successful completion of the course.

Objectives:

At the end of the course, trainees will be able to perform first-level supervisory duties in aeronautical telecommunications units.

Target Population:

Aeronautical Fixed Service and/or Aeronautical Mobile Service operators/supervisors, Meteorological Communications Operations Officers/supervisors.

Prerequisites:

Three years' experience as a full performance level Aeronautical Fixed Service and/or Aeronautical Mobile Service Operator/Meteorological Communications Operations Officer, with potential for promotion, or a projected promotion, to a supervisory position; or presently holding a first- or second-level communications supervisory position.

Course Content:

	List of Modules	Duration
1.	Course Opening and Introduction	4h35
2.	Leading Through Communication	6h30
3.	Total Quality Management	8h00
4.	Conflict Management	15h37
5.	Leading a Team	7h20
6.	Organizational Structure	8h50
7.	Assignment of Staff	9h00
8.	Discipline	17h30
9.	Motivation	35h29
10.	Performance Management System	10h00
11.	Coaching	4h00
12.	Planning	17h30
13.	Problem Solving	9h45
14.	Principles of AFTN Regional Planning	10h00
15.	Performance of the AFTN	7h30
16.	AFTN Routing Method	8h30
17.	AFTN Communication Centre Techniques	13h10
18.	Loading and Unloading of Magnetic Tape	3h50
19.	Monitoring, Interpretation of System Status and Operation of the Supervisor's Position (VDU)	17h15
20.	Restart / Stop Reserve Chain	3h20
21.	System Start-up	4h10
22.	Course Closure	2h00

Equipment:

- Flip chart board and markers
- Overhead Projector and Screen
- Serviceable VCR and TV
- Video Camera
- Blank video cassettes
- Chalkboard

211/002/IDP Instructor Development Programme

Centre: TRAINAIR Central Unit, ICAO	Version: 1
Language of Instruction: English	Duration: 4 weeks

Note:

This STP has been replaced by STP 211/140/ITC Instructor Training Course.

Purpose of the Course:

- To develop the preparation, presentation, management and course evaluation skills instructors need to conduct both instructor-dependent courses using conventional course materials and material-dependent courses using STPs to TRAINAIR standards.

- To equip instructors with the knowledge and skills needed to make appropriate use of training objectives and tests in order to be able to improve lesson plans and select appropriate training techniques and media to meet the objectives for courses which are not STPs.

Objectives:

Given training materials relevant to their specialty, trainees will be able to:

- Conduct training using the general principles of learning and motivation.
- Modify objectives and tests as appropriate.
- Distinguish between the two principal instructional methods and make use of them as appropriate in the teaching environment.
- Plan, prepare and present lessons.
- Select, prepare and use teaching aids appropriate to a unit of instruction.

Target Population:

Personnel who are currently assigned or are about to be assigned instructional duties either at a training institution or as on-the-job instructors.

Prerequisites:

Proficiency in both written and spoken English

Course Content:

	List of Modules	Duration
1.	Introduction	5h00
2.	Instructor's role & responsibility	9h30
3.	Principles of learning	7h00
4.	How to organize a course	5h00
5.	Preparation of facilities & equipment	8h45
6.	Overview of course development & objectives	8h30
7.	Tests	15h00
8.	Effective training techniques	9h00
9.	Managing individualized instruction	12h00
10.	Conducting group instruction	8h00
11.	Presenting Material/Discussion	17h30
12.	Assessment of performance	5h00
13.	Feedback & schedule adjustment	4h15
14.	Preparation of lecture material	14h30
15.	Conduct lecture lesson	6h30
16.	Preparation of role play material	14h30
17.	Role play presentation	10h30
18.	Preparation of individualized instruction	14h30
19.	Management of individualized instruction	6h30
20.	Laboratory/simulator lesson preparation	14h30
21.	Conduction of lab/simulator exercises	7h00

Equipment:

- OHT projector and screen
- Video equipment (camera and VCR) and TV
- Computer
- 16 mm projector
- Slide projector
- Audio cassette player/recorder
- R.F. Mager, "Preparing Instructional Objectives"
- R.F. Mager, "Measuring Instructional Intent", David S. Lake Publishers, Belmont, California, USA

211/053/OJTGEN On-the-Job Training (General)

Centre: QNTCAC, Amman, Jordan	Version: 1
Language of Instruction: English	Duration: 2 weeks

Purpose of the Course:

This course, followed by a minimum of six months practical experience working under the guidance of a qualified OJT Instructor, will train participants to develop and implement OJT Programmes.

Objectives:

- List advantages and disadvantages of OJT
- Identify individual training needs
- Design OJT curriculum
- Plan OJT session
- Organize the production of OJT materials
- Conduct OJT
- Evaluate trainee performance
- Validate the OJT Program
- Maintain training records

Target Population:

This course is intended for Supervisors in all CAA departments or any staff member assigned OJT duties. Trainees nominated for this course should have command of English language.

Prerequisites:

- This course is intended for Supervisors
- Any staff member assigned OJT duties
- In addition, the trainees should have command of the language of instruction

Course Content:

	List of Modules	Duration (in minutes)
0.	Course Introduction	90 m
1.	Introduction to OJT	109 m
2.	Training Needs	325 m
3.	Curriculum Design	300 m
4.	Session Planning	261 m
5.	Production of Materials	188 m
6.	Conducting OJT	211 m
7.	Performance Evaluation	165 m
8.	OJT Program Validation	185 m
9.	Training Records and Reports	144 m

211/109/IDP Programa para la Formación de Instructores (PFI)

Centro: Grupo Central TRAINAIR, OACI	Versión: 1
Idioma de instrucción: Español	Duración: 4 semanas

Propósito del curso:

- Desarrollar las habilidades de preparación, presentación, administración y evaluación de cursos, que los instructores necesitan tanto para conducir cursos basados en el instructor utilizando material didáctico convencional, como para conducir cursos basados en el material utilizando CMDN según las normas TRAINAIR.
- Proveer a los instructores el conocimiento y las habilidades necesarias para utilizar apropiadamente los objetivos de instrucción y las pruebas de manera tal de ser capaces de perfeccionar los planes de clases y seleccionar las técnicas y los medios apropiados para alcanzar los objetivos de aquellos cursos para los que no existen CMDN.

Objetivos:

Dados los materiales de instrucción relacionados con sus especialidades, los alumnos serán capaces de:

- Conducir la instrucción usando los principios generales del aprendizaje y la motivación.
- Modificar apropiadamente los objetivos y las pruebas.
- Distinguir los dos métodos de instrucción principales y utilizarlos apropiadamente en función del entorno de enseñanza.
- Planificar, preparar y presentar las clases.
- Seleccionar, preparar y utilizar apropiadamente las ayudas de instrucción para una unidad de instrucción.

Grupo a ser capacitado:

Personal ya asignado o a asignar a tareas de instrucción, ya sea en una institución de capacitación o como instructores en el puesto de trabajo.

Requerimientos para el ingreso:

Manejo del idioma español escrito y oral

Contenido del curso:

	Modulos	Duración
1.	Introducción	5 horas
2.	Rol y Responsabilidad del Instructor	9.5 horas
3.	Principios del Aprendizaje	7 horas
4.	Cómo Organizar un Curso	5 horas
5.	Preparación de Instalaciones y Equipo	8.75 horas
6.	Generalidades sobre Preparación de Cursos y Objetivos	8.5 horas
7.	Pruebas	15 horas
8.	Técnicas de Instrucción Efectivas	9 horas
9.	Administración de la Instrucción Individualizada	12 horas
10.	Conducción de la Instrucción Grupal	8 horas
11.	Presentación del Material/Discusión	17.5 horas
12.	Evaluación del Rendimiento	5 horas
13.	Retroalimentación y Ajuste del Horario	4.25 horas
14.	Preparación del Material para Exposición	14.5 horas
15.	Conducción de una Clase con Exposición	6.5 horas
16.	Preparación de Material para Simulación de Roles	14.5 horas
17.	Presentación de una Simulación de Roles	10.5 horas
18.	Preparación de la Instrucción Individualizada	14.5 horas
19.	Administración de la Instrucción Individualizada	6.5 horas
20.	Preparación de una Lección de Laboratorio/Simulador	14.5 horas
21.	Conducción de Ejercicios de Laboratorio/Simulador	7 horas

Equipos:

- 1 Cámara de video and batería de repuesto
- 1 VC
- 1 TV
- 1 Proyector de TRANS
- 1 Proyector de 16mm
- 1 Proyector de diapositivas de 35 mm
- 1 Grabadora/Reproductora para cassettes de Audio
- Rotafolio
- 1 Pizarrón
- 1 Pantalla para las proyecciones
- R.F. Mager "Preparing Instructional Objectives"
- R.F. Mager "Measuring Instructional Intent", David S. Lake Publishers, Belmont, California

211/124/OJTGEN On-the-Job Training (General)

Centre: CATC, Manila, Philippines	Version: 1
Language of Instruction: English	Duration: 2weeks

Purpose of the Course:

This course, followed by practical experience working under the guidance of a qualified OJT instructor, will enable participants to develop and implement OJT programs.

Objectives:

At the end of the course, the trainees will be able to:

- Identify individual training needs.
- Design OJT curriculum
- Plan OJT sessions
- Produce OJT materials.
- Schedule and prepare for OJT.
- Evaluate trainee's performance.
- Validate the OJT program.
- Maintain training records and reports.

Target Population:

Supervisors in all technical and non-technical services in ATO and other staff members assigned OJT duties.

Prerequisites:

- Permanent employee of ATO.
- Supervisor or training officer in the technical or non-technical services of ATO.
- Other ATO staff members assigned OJT duties.
- Good command of English.

Course Content:

	List of Modules	Duration
1.	Training Needs Identification	450 minutes
2.	Curriculum Design	450 minutes
3.	Session Planning	315 minutes
4.	Materials Production	225 minutes
5.	Scheduling and Preparing for OJT Program	225 minutes
6.	Performance Evaluation	180 minutes
7.	OJT Program Validation	225 minutes
8.	Maintaining Training Records and Reports	180 minutes

Equipment:

- Whiteboard
- Overhead Projector and Screen
- Flip Chart
- 3 Films: Job Analysis, Drill Press Operator, Programmed Learning

211/140/ITC Instructor Training Course

Centre: CATC, Tehran, Iran	Version: 1
Language of Instruction: English	Duration: 2 weeks

Purpose of the Course:

To provide ab initio and untrained instructors with all necessary skills, knowledge and desirable attitudes to deliver standardized or traditional non-standardized courses efficiently and in professional manner.

Objectives:

Upon completion of this course, the trainee will be able to:

- prepare training materials for conventional courses;
- make preparations to deliver group-based training;
- conduct group-based training;
- make preparations to administer individualized training STPs;
- administer individualized training STP;
- evaluate trainee(s)' performance;
- prepare course delivery report;
- conduct post-training evaluation for conventional courses.

Target Population:

Instructors

Prerequisites:

Trainees need to have good command of English.

Course Content:

	List of Modules	Duration
0.	Introduction	1h30
1.	Preparing training materials	12h00
2.	Preparing to conduct group based training	4h30
3.	Conducting group based training	15h00
4.	Preparing to administer individualized training	4h30
5.	Administering individualized training	4h30
6.	Evaluating trainee(s)' performance	4h30
7.	Preparing course delivery report	4h30
8.	Conducting post training evaluation	7h30

Equipment:

- 1 PC with PowerPoint;
- 1 video projector;
- 1 video and TV set;
- 1 video tape or CDs entitled 'Programmed learning';
- 1 video tape or CDs entitled 'See what I mean'.

212/015/AIT Advanced Instructor Training

Centre: EASA, Nairobi, Kenya	Version: 1
Language of Instruction: English	Duration: 5 weeks

Purpose of the Course:

After completion of the course, the senior instructor will be able to carry out management activities related to the implementation of modern instructional programmes.

Objectives:

Be able to:

- Plan, supervise and evaluate training programmes.
- Manage learning-related problems and/or situations.
- Write reports.
- Design and conduct on the job training.

Target Population:

Principal lecturers, senior lecturers, training supervisor.

Prerequisites:

The trainee shall have successfully completed either the TRAINAIR Instructor Development Programme (IDP) or another recognized basic instructional techniques course. In addition, he/she will have had instructional or supervision experience of at least 5 years.

Course Content:

	List of Modules	Duration
0.	Course opening	2h00
1.	Training Administration	18h00
2.	Training Objectives	7h30
3.	Evaluation of Training	12h00
4.	Academic Counselling Interview	12h30
5.	Trainee Performance Evaluation Interview	11h00
6.	Professional Conduct Interview	7h00
7.	Departure Interview	7h00
8.	Preliminary Analysis	3h00
9.	Population Analysis	5h30
10.	Curriculum Design	3h30
11.	Module Design	3h00
12.	Developmental Testing	4h30
13.	Production of OHTs	10h00
14.	Validation and Revision	2h00
15.	Pre-course Administration	2h00
16.	Coaching Session	2h00
17.	Report Writing	17h00
18.	Course Closing	2h00

Equipment:

- OHT projector and screen.
- Video equipment (camera, recorder and player) and TV.
- Personal computers.

214/001/CDW TRAINAIR Course Developers Workshop

Centre: TRAINAIR Central Unit, ICAO	Version: 1
Language of Instruction: French, Spanish	Duration: 4 weeks

Purpose of the Course:

This course, coupled with at least 12 months' practical experience working under the guidance of a Training Expert or a Senior Course Developer, will train civil aviation course developers to design and develop Standardized Training Packages (STPs) to TRAINAIR standards by either upgrading an existing course to become an STP or creating a new STP.

Objectives:

After having successfully completed this course, the trainees will be able to specify the TRAINAIR standards for:

- determining the need to upgrade an existing course to an STP or to develop a new STP;
- analyzing jobs and target populations;
- determining training objectives;
- sequencing objectives and grouping them into modules;
- preparing and validating tests;
- designing, producing and validating training material;
- evaluating the effects of training;
- planning, controlling and evaluating training development projects.

Target Population:

Experienced Civil Aviation Training Centre instructors who are prepared to dedicate themselves to the development of courses of an international standard.

Prerequisites:

- Holder of high school diploma, or equivalent. Tertiary qualifications and/or technical qualifications in an aviation-related field desirable.
- Qualification as an instructor with at least 5 years' practical experience.
- Good oral or written command of the language of instruction.
- Refer to TRAINAIR Guidelines for the selection of course developers.

Course Content:

	List of Modules	Duration
1.	Introduction	1h30
2.	The TRAINAIR Approach	3h40
3.	Preliminary Study	8h20
4.	Job Analysis I	6h25
5.	Job Analysis II	7h30
6.	Population Analysis	3h00
7.	Job Aids	3h40
8.	Training objectives - Types and Components	4h15
9.	Deriving, Sequencing and Grouping Training Objectives	7h40
10.	Design of Mastery Tests and Progress Tests	8h45
11.	Project Planning and Control	3h50
12.	Module Design - Principles	5h50
13.	Instructional Media	4h50
14.	Module Design - Practice	6h45
15.	Developmental Testing	4h10
16.	Validation, Revision and Implementation	5h30
17.	Post-training Evaluation	4h50

Equipment:

- OHT projector and screen.
- Video and TV system.
- Slide/tape projector.
- R.F. Mager, "Preparing Instructional Objectives"
- R.F. Mager, "Measuring Instructional Intent", David S. Lake Publishers, Belmont, California, USA
- ICAO STGs: 111 - Aerodrome Fire Fighter, 201 - Flight Operations Officer

214/110/CDW TRAINAIR Course Developers Workshop

Centre: TRAINAIR Central Unit, ICAO	Version: 2
Language of Instruction: English	Duration: 3 weeks

Purpose of the Course:

To provide each Civil Aviation Training Centre that joins the TRAINAIR program with a team of professional course developers who, after a period of on-the-job training, can produce Standardized Training Packages to the TRAINAIR standard for exchange within the international network.

Objectives:

On successful completion of this workshop participants, working under the guidance of an experienced course developer, will be able to:

- Assist in analysing training needs and choosing strategies
- Analyse jobs and target populations
- Determine training objectives
- Sequence objectives and grouping them into modules
- Prepare and validate tests
- Design, produce and validate training material
- Evaluate the effects of training
- Plan, control and evaluate training development projects

Target Population:

Experienced Civil Aviation Training Centre instructors who are prepared to dedicate themselves to the development of courses of an international standard.

Prerequisites:

- Holder of high school diploma, or equivalent. Tertiary qualifications (College or University Degree) desirable.
- Qualified as an instructor, with at least three years practical experience or two years practical experience and successful completion of an instructor development course (TRAINAIR Instructor Development Programme or equivalent).
- Experience in course development desirable.
- Proficiency in the language of instruction should be able to write clearly and logically. Proficiency in the language of instruction in another working language of ICAO is desirable.
- Computer skills using contemporary software programmes.

Course Content:

	List of Modules	Duration
1.	Workshop Introduction	3 hours
2.	Preliminary Analysis	12 hours
3.	Job Analysis	13 hours
4.	Population Analysis	8 hours
5.	Design of Job Aids	8 hours
6.	Objectives	11 hours
7.	Design Tests	7 hours
8.	Sequence Objectives	9 hours
9.	Module Outline	8 hours
10.	Module Design	9 hours

Equipment:

- OHT projector and screen.
- Video and TV system.
- Slide/tape projector.
- R.F. Mager, "Preparing Instructional Objectives"
- R.F. Mager, "Measuring Instructional Intent", David S. Lake Publishers, Belmont, California, USA
- ICAO STGs: 111 - Aerodrome Fire Fighter, 201 - Flight Operations Officer

214/115/CDW Taller de Preparadores de Cursos TRAINAIR

Centro: Grupo Central TRAINAIR, OACI	Versión: 1
Idioma de instrucción: Español	Duración: 4 semanas

Propósito del curso:

Este curso, seguido por un mínimo de 12 meses de experiencia práctica supervisada por un Experto TRAINAIR, habilitará los participantes a diseñar y preparar conjuntos de material didáctico normalizado (CMDN), de acuerdo a las normas TRAINAIR, en dos maneras posibles:

- crear un curso nuevo en forma de CMDN
- perfeccionar un curso existente transformándolo en un curso en forma de CMDN

Objetivos:

Los alumnos, luego de haber completado satisfactoriamente este curso, serán capaces de especificar las normas TRAINAIR para:

- determinar la necesidad de perfeccionar un curso existente para transformarlo en CMDN o preparar un curso nuevo en forma de CMDN
- analizar empleos y el grupo a ser capacitado
- determinar objetivos de Instrucción
- colocar los objetivos en secuencia y agruparlos en módulos
- preparar y validar las pruebas
- diseñar, producir y validar el material didáctico
- evaluar los efectos de la Instrucción
- planear, controlar y evaluar los proyectos de preparación de programas de instrucción

Grupo a ser capacitado:

Instructores experientes de los Centros de instrucción de aviación civil, seleccionados para dedicarse a la preparación de cursos según normas internacionales.

Requerimientos para el ingreso:

Diploma de estudios secundarios o equivalente. Es conveniente haber hecho estudios de nivel terciario.

- Cinco años, como mínimo de experiencia práctica como instructor calificado. Es deseable la experiencia en la preparación de cursos.
- Conocimiento práctico del idioma de instrucción y, en particular, aptitud para escribir de forma clara y comprensible.
- Los conocimientos para utilizar una computadora serán una ventaja.

Contenido del curso:

	Módulos	Duración
1.	Introducción al Curso	1h30
2.	El Enfoque TRAINAIR	3h40
3.	Estudio Preliminar	8h20
4.	Análisis del Empleo I	6h25
5.	Análisis del Empleo II	7h30
6.	Análisis de Población	3h00
7.	Ayudas de Trabajo	3h40
8.	Objetivos de Instrucción - Tipos y Componentes	4h15
9.	Deducir, Secuenciar y Agrupar Objetivos de Instrucción	7h40
10.	Diseño de Pruebas de Dominio y de Progreso	8h45
11.	Planeamiento y Control de Proyectos	3h50
12.	Diseño del Módulo - principios	5h50
13.	Medios de Instrucción	4h50
14.	Diseño de un Módulo - Práctica	6h45
15.	Experimentación Preparatoria	4h10
16.	Validación, Revisión e Implementación	5h30
17.	Evaluación Post-Instrucción	4h50

Equipos:

- 1 VC
- 1 TV
- 1 Proyector de TRANS
- 1 Proyector de diapositivas de 35mm
- 1 Pantalla para las proyecciones
- R.F. Mager "Preparing Instructional Objectives"
- R.F. Mager "Measuring Instructional Intent", David S. Lake Publishers, Belmont, California
- GIN 111 - Bombero de aeropuerto
- GIN 201 - Encargado de Operaciones de Vuelo

214/116/CDW Atelier des Concepteurs de cours TRAINAIR

Centre: Groupe central TRAINAIR, OACI	Version: 1
Langue d'instruction: Français	Durée: 4 semaines

But du cours:

Ce cours jumelé à une formation en cours d'emploi de douze mois sous la direction d'un expert TRAINAIR formera des concepteurs de cours de l'aviation civile. Ces concepteurs de cours pourront ainsi concevoir et développer des mallettes pédagogiques normalisées (MPN) selon les standards TRAINAIR soit en mettant en conformité un cours existant pour en faire une MPN, soit en créant une nouvelle MPN.

Objectif(s) du cours:

Après avoir complété avec succès ce cours, les stagiaires pourront spécifier les standards TRAINAIR pour:

- déterminer le besoin de mettre en conformité un cours existant pour en faire une MPN ou créer une nouvelle MPN;
- analyser les emplois et les populations cibles;
- déterminer les objectifs de formation;
- classer les objectifs et les regrouper en modules;
- préparer et valider les tests;
- concevoir, produire et valider le matériel pédagogique;
- évaluer les effets de la formation;
- planifier, diriger et évaluer des projets de conception de cours.

Population cible:

Des instructeurs expérimentés de centre de formation en aviation civile prêts à se consacrer au développement de cours de niveau international.

Conditions d'admission:

- Titulaire d'un diplôme d'études secondaires ou équivalent. Qualifications de préférence dans le secteur tertiaire ou qualifications techniques dans une discipline de l'aviation souhaitable.
- Qualifié comme instructeur, avec au moins cinq années d'expérience pratique.
- Bonne maîtrise parlée et écrite de la langue utilisée pour la formation.

Contenu du cours

	Modules	Durée
1.	Introduction au cours	1h30
2.	L'approche TRAINAIR	3h40
3.	Etude préliminaire	8h20
4.	Analyse de l'emploi - I	6h25
5.	Analyse de l'emploi - II	7h30
6.	Analyse de la population	3h00
7.	Aides au travail	3h40
8.	Différents types d'objectifs et leurs composants	4h15
9.	Formulation, mise en séquence et regroupement des objectifs de formation	7h40
10.	Conception des tests de maîtrise et des tests de progression	8h45
11.	Planification et contrôle du projet	3h50
12.	Conception de modules – principes	5h50
13.	Moyens de communication en formation	4h50
14.	Conception de modules - travaux pratiques	6h45
15.	Expérimentation	4h10
16.	Validation, révision et mise en oeuvre	5h30
17.	Evaluation post-formation	4h50

Matériel :

- Rétroprojecteur et écran
- Appareil vidéo et télévision
- Projecteur de diapositives
- R.F. Mager, "Preparing Instructional Objectives"
- R.F. Mager, "Measuring Instructional Intent", David S. Lake Publishers, Belmont, California, USA
- GIN: 111 Pompier d’aérodrome
- GIN 201 - Agent technique d’exploitation

214/134/CDW TRAINAIR Course Developers Workshop

Centre: ANTC, Riga, Latvia	Version: 1
Language of Instruction: Russian	Duration: 3 weeks

Purpose of the Course:

To provide each Civil Aviation Training Centre that joins the TRAINAIR program with a team of professional course developers who, after a period of on-the-job training, can produce Standardized Training Packages to the TRAINAIR standard for exchange within the international network.

Objectives:

On successful completion of this workshop participants, working under the guidance of an experienced course developer, will be able to:

- assist in analysing training needs and choosing strategies;
- analyse jobs and target populations;
- determine training objectives;
- sequence objectives and grouping them into modules;
- prepare and validate tests;
- design, produce and validate training material;
- evaluate the effects of training;
- plan, control and evaluate training development projects.

Target Population:

Experienced Civil Aviation Training Centre instructors who are prepared to dedicate themselves to the development of courses of an international standard.

Prerequisites:

- Holder of high school diploma, or equivalent. Tertiary qualifications and/or technical qualifications in an aviation related field desirable.
- Qualification as an instructor with at least 5 years' practical experience.
- Good oral or written command of the language of instruction.
- Refer to TRAINAIR Guidelines for the selection of course developers.

Course Content:

	List of Modules	Duration
1.	Workshop Introduction	3h00
2.	Preliminary Analysis	12h00
3.	Job Analysis	14h00
4.	Population Analysis	8h00
5.	Design of Job Aids	7h00
6.	Objectives	11h00
7.	Design Tests	7h00
8.	Sequence Objectives	9h00
9.	Module Outline	8h00
10.	Module Design	9h00

Equipment:

- computer with MS Word and PowerPoint software;
- data projector capable of projecting a computer image;
- overhead projector (if data projector is not available);
- projector screen;
- white board and set of markers;
- flip-chart easel, paper and markers;
- index carts;
- tape or other material for fastening index card to the wall.

219/099/EXAM Examination Techniques

Centre: CATC, Teheran, Iran	Version: 1
Language of Instruction: English	Duration:1 week

Purpose of the Course:

This course will enable the instructors/supervisors to develop and implement standardized tests.

Objectives:

On completion of this course, the trainee will be able to:

- Develop a standard test through proper design, construction and evaluation of the test
- Administer a test
- Score a test
- Analyze and interpret test results

Target Population:

Instructors and supervisors tasked with testing individuals.

Prerequisites:

Participants should have:

- Good command of the language of instruction
- Essentials of computer operation

Course Content:

	List of Modules	Duration
0.	Introduction	1h35
1.	Test Design	4h35
2.	Test Construction	7h10
3.	Test Evaluation	2h35
4.	Test Administration	1h25
5.	Test Scoring	1h50
6.	Test Results Analysis and Interpretation	3h50

Equipment:

- PC with PowerPoint and Excel
- Datashow
- Video Set
- VHS

219/130/OJTATC OJT Techniques for Air Traffic Controller

Centre: CATI, Hyderabad, Pakistan	Version: 1
Language of Instruction: English	Duration: 4 weeks

Purpose of the Course:

The main purpose of is to determine the job description of an air traffic controller who is entrusted by the management for conducting on the job training to air traffic controllers in a particular ATS unit, and underlying duties, tasks and sub tasks related to on the job training techniques. Subsequently skill knowledge and attitudes (SKAs) requirements are outlined to perform the task in a desirable manner.

Objectives:

On the completion of the course, the trainee will be able to:

- Plan OJT
- Conduct OJT
- Evaluate trainees progress
- Analyse complete training record

Target Population:

Air traffic controllers rated in all ATS units with at least 3 years field experience and considerable potential as instructors. The ideal class will comprise 8 – 10 trainees at the most which will promote group discussions, role-plays and participation / presentation.

Prerequisites:

- The on-the-job training instructor (OJTI) should preferably be a current ‘B’ category controller. In special circumstances waiver can be sought from concerned management to utilize controllers having “C” category.
- A minimum of 3 years practical experience.
- Holding all the required ratings at that unit.
- The OJTI must be a person who is willing and keen with a natural flair for instructorship.

Course Content:

	List of Modules	Duration
0.	Introduction	5 h10
1.	Plan OJT	16 h35
2.	Conduct OJT	11h20
3.	Evaluate trainees' progress	10h10
4.	Analyse complete training record	5h20

259/163/PIL RVSM RVSM Certification for Pilots

Centre: SPUCA, St. Petersburg, Russian Federation	Version: 1
Language of Instruction: English	Duration: 3 days

Purpose of the Course:

To provide qualified airline pilots with all necessary skills, knowledge and desirable attitudes to perform their professional tasks in the RVSM environment.

Objectives:

On the completion of the course, the trainee will be able to:

- judge on changing flight profile/mode;
- use airborne equipment and systems;
- perform approved operational procedures on the ground;
- perform approved operational in-flight procedures;
- solve problems in abnormal situations;
- interact with ATC and ground operators.

Target Population:

Qualified airline pilots.

Prerequisites:

Candidates should have valid pilot licence and operational experience as an airline pilot not less than one year.

Course Content:

	List of Modules	Duration
0.	Course Introduction	1h30
1.	Flight operations in the RVSM environment	3h00
2.	Use of airborne equipment and systems	3h00
3.	Pre-flight preparations	3h00
4.	RVSM in-flight procedures	3h00
5.	Abnormal situations in flight	3h00
6.	Phraseology	1h30

Equipment:

- 1 PC with Microsoft Office 2000 or higher installed;
- 1 video projector;
- 1 white board and a set of markers;
- 1 demonstration software “RITA”;
- 1 video fillm “EUR RVSM Operational Overview”;
- 1 RVSM related documents;
- 1 regulative documents on flight operations in Russian Federation;
- 1 Instructor Guide: Module Plan 0-6;
- 1 audio-visual materials on CD: OSP 0-6.

279/049/AMC Apron Movement Controller

Centre: CATC, Curug, Indonesia	Version: 1
Language of Instruction: English	Duration: 3 weeks

Purpose of the Course:

To provide Apron Movement Controllers with the knowledge and skills necessary to marshal aircraft, to operate aviobridge, and to monitor of baggage correctly at an airport.

Objective:

Given ICAO rules, airports operational procedures, manufacturer's manual, participants will be able to perform aircraft marshalling, operate aviobridge and monitor transport of baggage correctly at an airport.

Target Population:

Government employees/civil servants or governments owned company employees, and the private company's staff.

Prerequisites:

- Male who are no more than 30 years old
- Senior high school graduate
- A good command of English

Course Content:

	List of Modules	Duration
1.	Course Introduction	2h15
2.	Check Flight Schedule Data	12h10
3.	Check Apron Area	8h30
4.	Check Parking Stand	7h30
5.	Operate ADGS	5h50
6.	Marshall Aircraft	9h40
7.	Check Aviobridge	11h30
8.	Docking Aviobridge	8h50
9.	Undocking Aviobridge	6h20
10.	Monitor Baggage Transport for Departing Aircraft	9h35
11.	Monitor Baggage Transport for Arriving Aircraft	6h45
12.	On-the-Job Training (OJT)	3 weeks