
**GACAR PART 143 – FLIGHT ENGINEER, CABIN CREW MEMBER, AND AIRCRAFT
 DISPATCHER TRAINING SCHOOLS**

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SUBPART A – GENERAL

§ 143.1 Applicability.

This part prescribes the requirements governing—

- (a) The certification and operation of flight engineer, cabin crew member, and aircraft dispatcher training schools;
- (b) The issuance of aircraft ratings and class endorsements to associated training schools;
- (c) The privileges and limitations applicable to a holder of a certificate, aircraft rating, or class endorsement issued under this part; and
- (d) Operations specifications.

§ 143.3 Certificate and Operations Specifications Required.

No person may operate a flight engineer, cabin crew member, or aircraft dispatcher training school without, or in violation of, the appropriate training school certificate and operations specifications issued under this part.

§ 143.5 Eligibility and Requirements for a Training School Certificate.

The President may issue a training school certificate with the associated aircraft rating or class endorsement if—

- (a) Completes and submits the application for the appropriate training school certificate in a form and manner prescribed by the President accompanied by the applicant’s training and procedures manual; and
- (b) Meets the applicable requirements under Subparts A through C of this part for the training school certificate and associated aircraft rating or aircraft class endorsement sought.

§ 143.9 Aircraft Ratings and Class Endorsements.

- (a) The aircraft ratings and class endorsements listed in paragraphs (b) and (c) of this section may be issued to an applicant for a training school certificate, provided the applicant meets the

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requirements of GACAR § 143.5.

(b) A certificated flight engineer training school may be authorized to conduct the following rating courses:

- (1) Reciprocating engine powered airplanes;
- (2) Turbopropeller powered airplanes; and
- (3) Turbojet powered airplanes.

(c) A certificated cabin crew member training school may be authorized to conduct the following class endorsement courses:

- (1) Turbopropeller powered airplanes;
- (2) Turbojet powered airplanes; and
- (3) Rotorcraft.

§ 143.11 Safety Management System.

(a) If a person applying to the President for a training center certificate intends to use aircraft for flight instruction under this part, that person must demonstrate, during the application process under GACAR § 143.13, that it has a Safety Management System (SMS) that meets the standards in GACAR Part 5 and is acceptable to the President.

(b) A certificate holder authorized to conduct flight training in aircraft under this part must have and maintain an SMS that meets the requirements of GACAR Part 5 and is acceptable to the President.

§ 143.13 Application for Issuance, Amendment, or Renewal.

(a) Application for a certificate and aircraft rating, class endorsement, additional aircraft rating, or the renewal of a certificate under this part must be made in the form and manner prescribed by the President.

(b) Application for the issuance or amendment of a certificate, aircraft rating, or class endorsement

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must be accompanied by a copy of each proposed training course curriculum for which approval is sought.

- (c) The President may suspend, revoke, or amend any certificate issued under this part if—
- (1) The President determines that aviation safety and the public interest requires the suspension, revocation, or amendment; or
 - (2) The certificate holder applies for the amendment and the President determines that aviation safety and the public interest allow the amendment.
- (d) When the President proposes to amend, suspend, modify, or revoke all or part of any certificate, the procedure in GACAR Part 13 applies.
- (e) When the certificate holder applies for an amendment of its certificate, the following procedure applies:
- (1) Each holder of a certificate issued under this part must file an application to amend its certificate with the General Authority of Civil Aviation (GACA) at least 15 working days before the date proposed by the applicant for the amendment to become effective, unless the President approves filing within a shorter period.
 - (2) The application must be submitted in a form and manner prescribed by the President.
 - (3) When a certificate holder seeks reconsideration of a decision from the President concerning amendments of a certificate, the procedures in GACAR Part 13 apply.

§ 143.15 Duration of Certificate.

- (a) **General.** Each holder of a certificate issued under this part may not exercise the privileges of that certificate after it expires.
- (b) A training school certificate issued under this part is valid—
- (1) Until the date as endorsed on the certificate or
 - (2) Until the certificate is surrendered, suspended, or revoked.

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(c) A change in the ownership of a training school does not terminate that school's certificate if—

(1) At least 10 working days before the date of any change in ownership of the training school, application is made for an appropriate amendment to the certificate and

(2) No change in the facilities, personnel, or approved training courses is involved.

§ 143.17 Display of Certificate.

(a) Each holder of a certificate issued under this part must display that certificate in a place in the school that is normally accessible to the public and is not obscured.

(b) A certificate must be made available for inspection upon request by—

(1) The President,

(2) An authorized representative of the Saudi Arabian Aviation Investigation Bureau (SAAIB), or

(3) Any law enforcement agency in the Kingdom of Saudi Arabia.

§ 143.19 Certificate Holder's Duty To Maintain Operations Specifications.

(a) Each holder of a certificate issued under this part must maintain a complete and separate set of its operations specifications at its principal operations base.

(b) Each holder of a certificate issued under this part must insert pertinent excerpts of, or references to, its operations specifications into its manual and must—

(1) Clearly identify each such excerpt as a part of its operations specifications and

(2) State that compliance with the operations specifications is mandatory.

(c) Each holder of a certificate issued under this part must keep each of its employees and other persons used in its operations informed of the provisions of its operations specifications that apply to that employee's or person's duties and responsibilities.

§ 143.21 Contents of Operations Specifications.

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Each holder of a certificate issued under this part must obtain operations specifications containing all of the following:

- (a) The specific location of the certificate holder’s principal operations base and, if different, the address that will serve as the primary point of contact for correspondence between the GACA and the certificate holder;
- (b) The type of aircraft, registration markings, and serial numbers of each aircraft used for flight training, if applicable;
- (c) The type of training authorized, including approved courses;
- (d) The authorizations, limitations, and certain procedures under which each training program is to be conducted; and
- (e) Any other item the President determines is necessary.

§ 143.23 Amending Operations Specifications.

- (a) The President may suspend, revoke, amend, or modify any operations specifications issued under this part if—
 - (1) The President determines that aviation safety and the public interest require the amendment or
 - (2) The certificate holder applies for the amendment, and the President determines that aviation safety and the public interest allow the amendment.
- (b) When the President initiates a suspension, revocation, or amendment of a certificate holder’s operations specifications, the procedure in GACAR Part 13 applies.
- (c) When the certificate holder applies for an amendment to its operations specifications, the following procedure applies:
 - (1) The holder of a certificate issued under this part must file an application to amend its operations specifications at least 15 days before the date proposed by the applicant for the amendment to become effective, unless a shorter time is approved.

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(2) If the GACA approves the amendment, following coordination with the certificate holder regarding its implementation, the amendment is effective on the date the President approves it.

(3) When a holder of a certificate issued under this part seeks reconsideration of a decision from the President concerning suspension, revocation, or amendment of a certificate, the procedures in GACAR Part 13 apply.

§ 143.25 Inspections.

Each holder of a certificate issued under this part must allow the President to inspect its personnel, facilities, equipment, and records to determine the certificate holder's compliance with the GACAR.

§ 143.27 Advertising Limitations.

(a) Each holder of a certificate issued under this part may not make any statement relating to its certification and aircraft ratings that is false or designed to mislead any person contemplating enrollment in that school.

(b) Each holder of a certificate issued under this part must promptly remove—

(1) From vacated premises, all signs indicating that the training school was certificated by the President or

(2) All indications (including signs), wherever located, that the training school is certificated by the President when its certificate has expired or has been surrendered, suspended, or revoked.

§ 143.29 Business Office and Operations Base.

(a) An applicant for, or holder of, a certificate issued under this part must ensure that—

(1) Each room, training booth, or other space used for instructional purposes is temperature controlled, lighted, and ventilated to conform to local building, sanitation, and health codes.

(2) The facilities used for instruction are not routinely subject to significant distractions caused by flight operations and maintenance operations at the aerodrome or by the instruction conducted in other classrooms.

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- (b) Each holder of a certificate issued under this part must maintain a principal business office with a mailing address and the business name shown on its certificate.
- (c) The facilities and equipment at the principal business office must be adequate to maintain the files and records required under this part.
- (d) The principal business office may not be shared with, or used by, another training school certificated under this part.
- (e) Each holder of a certificate issued under this part must maintain at least one operations base that may be at the same location as its principal business office.
- (f) Before changing the location of the principal business office or the principal operations base, each certificate holder must notify the President of the new location, and the notice must be—
- (1) Submitted in writing at least 30 working days before the change of location and
 - (2) Accompanied by any amendments needed for the certificate holder's approved training course outline.
- (g) A certificate holder issued under this part may conduct training at an operations base other than its principal operations base in accordance with GACAR § 143.103.
- (h) An applicant for, or holder of, a certificate issued under this part must have exclusive use, for appropriate periods and at a location approved by the President, of adequate training equipment and courseware, including at least one full flight simulator or advanced flight training device.

§ 143.31 Contracts or Agreements.

- (a) The holder of a certificate issued under this part may contract with other persons to obtain suitable airplanes, airplane simulators, or other training devices or equipment as applicable.
- (b) The holder of a certificate issued under this part that is approved to conduct both the ground training and the practical training toward a particular certificate and rating or endorsement may contract with another party to conduct either the ground training or the practical training in its entirety, but may not contract with another party to conduct both the ground training and the practical training toward the same certificate and rating or endorsement.

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(c) The holder of a certificate issued under this part that is approved to conduct either the ground training or the practical training toward a particular certificate and rating or endorsement, but not both the ground training and the practical training, may not contract with another person to conduct that training in whole or in part.

(d) A certificate holder who contracts to provide training, approval for which is required under this part, may not authorize or permit a third party to conduct the training in whole or in part.

(e) In all cases, the holder of a training school certificate issued under this part that is approved to conduct training is responsible for the nature and quality of the instruction given.

§ 143.33 Renewal of Certificates, Aircraft Ratings, and Class Endorsements.

A training school certificated under this part may—

(a) Apply for renewal of its certificate and applicable aircraft ratings or class endorsements within 30 days preceding the month the training school's certificate expires, provided the school meets the requirements prescribed in paragraph (b) of this section for renewal of its certificate and applicable aircraft ratings or class endorsements.

(b) Have its certificate and aircraft ratings or class endorsements renewed for a period determined by the President if he determines the training school's personnel, facility, approved training courses, training records, and recent training ability and quality meet the requirements of this part.

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SUBPART B – PERSONNEL AND TRAINING EQUIPMENT REQUIREMENTS

§ 143.35 Applicability.

This subpart prescribes the personnel and training equipment requirements for the holder of a certificate issued under this part offering training:

- (a) Toward the issuance of a certificate under GACAR Part 61 or 65; or
- (b) To meet an air operator's training program requirements for flight engineers, cabin crew members or aircraft dispatchers.

§ 143.37 Appointment of Personnel.

- (a) Each holder of a certificate issued under this part must appoint an accountable manager who has authority to ensure that all requirements of this part are met by the school.
- (b) Each holder of a certificate issued under this part must employ sufficient personnel for ensuring compliance with the requirements of this part, including the planning, performance, and supervision of training to be conducted.

§ 143.39 Instructor Requirements.

- (a) Each holder of a certificate issued under this part, must have and maintain, a sufficient number of instructors qualified in accordance with this subpart to perform the duties to which they are assigned. The student to instructor ratio in any class may not exceed 25:1 unless authorized by the President. The training school is required to maintain a list of the names and qualifications of certified instructors, and upon request, provide a copy of the list to the President.
- (b) Instructors providing flight training to an applicant for a flight engineer certificate, in addition to meeting the requirements of paragraph (a) of this section, must—
 - (1) Hold a Class 2 medical certificate;
 - (2) Have received authorized instruction in flight instructional techniques including demonstration, student performance, student practices, recognition and correction of common student errors; and

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(3) Have practiced instructional techniques in those flight maneuvers and procedures in which he intends to provide flight instruction.

(c) Instructors providing training to an applicant for an aircraft dispatcher certificate and air operator training programs, in addition to meeting the requirements of paragraph (a) of this section, must—

(1) Hold an aircraft dispatcher certificate issued under GACAR Part 65;

(2) Have at least 2 years of experience as an aircraft dispatcher in any operation conducted under GACAR Part 121;

(3) Have previous instructing experience; and

(4) Must satisfactorily demonstrate his knowledge and proficiency of each curriculum he is designated to provide instruction.

(d) Instructors providing training to an applicant for cabin crew member certificate, in addition to meeting the requirements of paragraph (a) of this section, must—

(1) Hold a cabin crew member certificate issued under GACAR Part 65;

(2) Have previous instructing experience; and

(3) Must satisfactorily demonstrate his knowledge and proficiency of each curriculum he/she is designated to provide instruction.

§ 143.41 Instructor Training.

Each holder of a certificate issued under this part must provide procedures to ensure instructors receive initial and recurrent training appropriate to their responsibilities. Training in knowledge and skills related to human factors principles must be included in both initial and recurrent instructor training.

§ 143.43 Flight Simulator Training Devices.

(a) An applicant for, or holder of, a flight engineer training school certificate must show that each flight simulation training device (FSTD) used for training, testing, and checking is or will be

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specifically qualified and approved by the President under GACAR Part 60 for—

(1) Each maneuver and procedure for the make, model, and series of aircraft, set of aircraft, or aircraft type simulated, as applicable and

(2) Each curriculum or training course in which the FSTD is used, if that curriculum or course is used to satisfy any requirement of the GACAR.

(b) The approval required by paragraph (a)(1) of this section must include—

(1) The set of aircraft, or type aircraft;

(2) If applicable, the particular variation within type, for which the training, testing, or checking is being conducted; and

(3) The particular maneuver, procedure, or crew member function to be performed.

(c) Each qualified and approved FSTD used by a training school must meet the requirements of GACAR Part 60.

(d) Unless otherwise authorized by the President, each component on a qualified and approved FSTD used by a training school must be operative if the component is essential to, or involved in, the training, testing, or checking of pilots, flight instructors, ground instructors, and flight engineers.

(e) Training schools may request evaluation, qualification, and continuing evaluation for qualification and approval of FSTDs without—

(1) Holding an air operator certificate or

(2) Having a specific relationship to an air operator.

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SUBPART C – MANUAL REQUIREMENTS

§ 143.53 General.

Each holder of a certificate issued under this part must prepare and maintain a training and procedures manual, acceptable to the President, for the use of the school's personnel. The training school must ensure that—

- (a) The policies and procedures contained in the manual are not contrary to any applicable GACAR.
- (b) At least one copy of the manual is maintained at each operations base at which it conducts training.
- (c) A copy of the manual, or the appropriate portions of the manual, is made available to personnel by the training school and furnished to—
 - (1) Its flight and ground instructors and
 - (2) Representatives of the GACA assigned to the training school.
- (d) To comply with paragraph (c) of this section, a training school may furnish the persons listed therein with all or part of its manual in printed or other form, acceptable to the President, which is retrievable in the English language. If the school furnishes all or part of the manual in other than printed form, it must ensure there is a compatible reading device available to those persons that provides a legible image of the information and instructions, or a system that is able to retrieve the information and instructions in the English language.
- (e) Each employee of the training school to whom a manual or appropriate portions of it are furnished under paragraph (c) of this section must keep it up to date with the changes and additions furnished to them.

§ 143.55 Manual Contents.

- (a) The training and procedures manual must contain at least the following information:
 - (1) A general description of the scope of training authorized under the training school's

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certificate and operations specifications.

(2) Copies of the certificate holder's operations specifications or appropriate extracted information.

(3) The content of the training programs offered including the courseware and training equipment to be used.

(4) A description of the quality assurance system required under Subpart D of this part;

(5) A description of the training school's facilities.

(6) The names, duties, and qualifications of the personnel designated as the accountable executive and the management representative under GACAR Part 5.

(7) A description of the duties and qualifications of the personnel designated as responsible for planning, performing, and supervising training.

(8) A description of the procedures used by the training school to establish and maintain the competence of its flight and ground instructors under Subpart H of GACAR Part 61.

(9) A description of the method used for the completion and retention of training and qualification records under Subpart G of this part.

(10) A training program to ensure that all instructors receive initial and recurrent training appropriate to assigned tasks and responsibilities. The training must include knowledge and skills related to human factors.

(11) Procedures for revising the training and procedures manual required under this section to maintain current data.

(b) The training school must ensure that the training and procedures manual is amended as necessary to maintain current data.

(c) Copies of each amendment to the training and procedures manual must be furnished promptly to all persons to whom the manual has been issued.

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SUBPART D – QUALITY ASSURANCE SYSTEM

§ 143.65 Quality Assurance System.

(a) Each holder of a certificate issued under this part must establish a quality assurance system acceptable to the President. Management personnel responsible for the implementation and maintenance of the quality assurance system must be identified by the training school.

(b) The quality assurance system must address—

- (1) Conduct and effectiveness of all training programs;
- (2) Compliance and adequacy of curriculums;
- (3) Conformity and security of the training school’s recordkeeping system;
- (4) Adequacy of facilities and equipment;
- (5) Qualifications, eligibility, and ability of instructors; and
- (6) Effectiveness of management, including delegation of authority and responsibility.

§ 143.67 Quality of Training.

(a) When requested by the President, each holder of a certificate issued under this part must allow the GACA to administer any knowledge test, practical test, stage check, or end-of-course test as applicable to its students.

(b) When a stage check is administered by the GACA under the provisions of paragraph (a) of this section, and the student has not completed the training course, then that test will be based on the standards prescribed in the training school’s approved training course.

(c) When a practical test or knowledge test is administered by the GACA under the provisions of paragraph (a) of this section, to a student who has completed the school’s training course, that test will be based upon the areas of operation as prescribed in the applicable appendix to this part.

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SUBPART E – TRAINING COURSE OUTLINE AND CURRICULUM

§ 143.77 Applicability.

This subpart prescribes the curriculum and course outline requirements for the issuance of training school certificates and applicable aircraft ratings or class endorsements.

§ 143.79 Approval Procedures for a Training Course: General.

(a) **General.** An applicant for a certificate issued under this part must obtain the President's approval of the outline of each training course for which the applicant seeks to obtain certification.

(b) **Application.** An application for the initial approval of a training course or approval of an amended training course must be submitted in a form and manner acceptable to the President at least 30 working days before any training under that course, or any amendment thereto, is scheduled to begin.

(c) **Training courses.** An applicant for or holder of a training school certificate issued under this part may request approval for training courses specified under GACAR § 143.9(b) or (c).

(d) **Additional rules for Internet-based training courses.** An application for an initial or amended training course offered through an Internet-based medium must comply with the following:

(1) All amendments must be identified numerically by page, date, and screen. Minor editorial and typographical changes do not require GACA approval, provided the training school notifies the GACA within 30 days of their insertion.

(2) For monitoring purposes, the training school must provide the GACA an acceptable means to logon from a remote location to review all elements of the course as viewed by attendees and bypass the normal attendee restrictions.

(3) The training school must incorporate adequate security measures into its Internet-based courseware information system and into its operating and maintenance procedures to ensure the following fundamental areas of security and protection:

(i) Integrity,

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- (ii) Identification/Authentication,
- (iii) Confidentiality,
- (iv) Availability, and
- (v) Access control.

§ 143.81 Training Course: Contents.

- (a) Each training course for which approval is requested must meet the minimum curriculum requirements in accordance with the appropriate appendix to this part.
- (b) Except as provided in paragraphs (d) and (e) of this section, each training course for which approval is requested must meet the minimum ground training and, if applicable, flight training time requirements in accordance with the appropriate appendix to this part.
- (c) Each training course for which approval is requested must contain—
 - (1) A description of each room used for ground training, including the room’s size and the maximum number of students that may be trained in the room at one time, unless the course is provided via an Internet-based training medium;
 - (2) A description of each type of audiovisual aid, projector, tape recorder, mockup, chart, aircraft component, and other special training aid used for ground training;
 - (3) A description of each FSTD or flight engineer training device used for training, if applicable;
 - (4) The minimum qualifications and aircraft ratings for each instructor assigned to ground or, if applicable, flight training; and
 - (5) A training syllabus that includes the following information:
 - (i) The prerequisites for enrolling in the ground and, if applicable, flight portion of the course that includes training, experience, and knowledge;
 - (ii) A detailed description of each lesson, including the lesson’s objectives, standards,

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and planned time for completion;

(iii) A description of what the course is expected to accomplish with regard to student learning;

(iv) The expected accomplishments and the standards for each stage of training; and

(v) A description of the checks and tests to be used to measure a student's accomplishments for each stage of training.

§ 143.83 Special Curricula.

(a) An applicant for, or holder of, a certificate issued under this part may apply for approval to conduct a course for which a curriculum is not prescribed by this part.

(b) The course for which application is made under paragraph (a) of this section may be for airmen, material handlers, ground servicing personnel, security personnel, and others approved by the President.

(c) The President approves the course for which the application is made under this section if the school or school applicant shows that the course contains a curriculum that will achieve a level of competency equal to, or greater than, that required by the appropriate part of the GACAR for which the training course is to be provided.

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SUBPART F – OPERATING RULES

§ 143.95 Applicability.

This subpart prescribes the operating rules applicable to a training school certificated under this part.

§ 143.97 Privileges.

The holder of a certificate issued under this part may advertise and conduct approved training courses in accordance with the certificate and any aircraft ratings or class endorsements that it holds.

§ 143.99 Limitations.

The holder of a certificate issued under this part may not issue a graduation certificate to a student, or recommend a student for a flight engineer certificate or aircraft rating, cabin crew member certificate or class endorsement, or aircraft dispatcher certificate unless the student has—

- (a) Completed the training specified in the school’s course of training; and
- (b) Passed the required final tests.

§ 143.101 Maintenance of Personnel, Facilities, and Equipment.

The holder of a certificate issued under this part may not provide training to a student who is enrolled in an approved course of training unless—

- (a) The training equipment and facilities necessary for that training meet the standards specified in the holder’s approved training course outline and the appropriate requirements of this part, and
- (b) The management personnel and instructors meet the qualifications specified in the holder’s approved course of training and the appropriate requirements of this part.

§ 143.103 Satellite Base.

- (a) Each holder of a certificate issued under this part may conduct training in accordance with an approved training course at a satellite base if—

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- (1) The facilities, equipment, personnel, and course content of the satellite base meet the applicable requirements of this part;
- (2) The instructors at the satellite base are under direct supervision by management personnel of the principal training center; and
- (3) The President is notified in writing that a particular satellite base is to begin operations at least 30 working days prior to proposed commencement of operations at the satellite base.

(b) Each holder of a certificate issued under this part conducting training in accordance with an approved training course at a satellite base must allow the President to inspect its personnel, facilities, equipment, and records at the satellite base.

§ 143.105 Enrollment.

(a) Each holder of a certificate issued under this part must furnish, at the time a student is enrolled in an approved training course, that student with a copy of the following:

- (1) A certificate of enrollment containing—
 - (i) The name of the course in which the student is enrolled and
 - (ii) The date of that enrollment.

(2) A copy of the student's training syllabus.

(b) Each holder of a certificate issued under this part must maintain a current listing of persons enrolled in each training course offered by the school.

§ 143.107 Graduation Certificate.

(a) Each holder of a certificate issued under this part must issue a graduation certificate to each student who completes an approved course of training.

(b) The graduation certificate must be issued to the student upon completion of the course of training and contain at least the following information:

- (1) The business name and the certificate number of the school,

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- (2) The name of the graduate to whom it was issued,
 - (3) The course of training for which it was issued,
 - (4) The date of graduation,
 - (5) A statement that the student has satisfactorily completed each required stage of the approved course of training including the tests for those stages, and
 - (6) A certification of the information contained on the graduation certificate by management personnel for that course of training.
- (c) Graduation certificates issued from a course based on Internet media must be uniquely identified using an identification code specific to the student graduating from that course.

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SUBPART G – RECORDS

§ 143.115 Applicability.

This subpart prescribes the recordkeeping requirements for students enrolled in a training course approved in accordance with Subpart E of this part, and for instructors designated to instruct such courses, as applicable.

§ 143.117 Recordkeeping Requirements.

(a) Each holder of a certificate issued under this part must maintain a record for each student that contains—

- (1) The name of the student.
- (2) A copy of the student’s medical certificate, if applicable.
- (3) The name of the course and the make and model of the approved flight training equipment used (if applicable).
- (4) The date the student was enrolled in the approved course.
- (5) The student’s prerequisite experience and course time completed.
- (6) The student’s performance on each lesson and the name of the instructor providing instruction.
- (7) The date the student graduated, terminated training, or transferred to another school. In the case of graduation from a course based on Internet media, the school must maintain the identifying graduation certificate code required by GACAR § 143.107(c).
- (8) The number of hours of additional training that was accomplished after any unsatisfactory end-of-course tests.

(b) Each holder of a certificate issued under this part must maintain the records required by paragraph (a) of this section for at least 2 years following the completion of training, testing or checking.

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(c) Each holder of a certificate issued under this part must, upon request, provide the records required by this section to the President, and must keep the records required by paragraph (a) of this section at the training school or satellite base where—

(1) The training, testing, or checking, if appropriate, occurred; and

(2) The instructor is primarily employed.

(d) Each holder of a certificate issued under this part must provide to a student, upon request, a copy of his training records.

§ 143.119 Instructor Records.

Each holder of a certificate issued under this part must keep a current record of each instructor, must retain the record for at least 2 years after the instructor ceases to perform a function for the training school, and must make each record available for inspection by the President during that period.

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**APPENDIX A TO GACAR PART 143 – FLIGHT ENGINEER CERTIFICATION
COURSE**

I. Applicability.

This appendix prescribes the minimum curriculum required for a flight engineer certification course under this part.

II. Aircraft Ratings.

To be eligible for an additional aircraft class rating after his flight engineer certificate with an aircraft class rating is issued to him, an applicant must pass the knowledge test appropriate to the class of aircraft for which an additional aircraft rating is sought, and—

- (a) Pass the practical test for that class of aircraft or
- (b) Satisfactorily complete an approved flight engineer training course appropriate to the additional aircraft class rating sought.

III. Knowledge Training.

(a) Each approved course must include at least 235 hours of ground training on the aeronautical knowledge areas listed in paragraph (b) of this section, appropriate to the aircraft category and aircraft class rating to which the course applies.

(b) Ground training must include the following aeronautical knowledge areas:

- (1) Those GACAR applicable to the duties of a flight engineer;
- (2) The accident reporting requirements of the SAAIB;
- (3) The applicable subjects of the Saudi Arabian Aeronautical Information Publication and the appropriate GACA circulars;
- (4) The theory of flight and aerodynamics;
- (5) The fundamentals of aerodynamics;

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(6) Airplane familiarization to include—

- (i) Principles of operation, handling procedures and operating limitations of aircraft powerplants; effects of atmospheric conditions on engine performance;
- (ii) Airframes, flight controls, structures, wheel assemblies, brakes and anti-skid units, corrosion and fatigue life; identification of structural damage and defects;
- (iii) Ice and rain protection systems;
- (iv) Pressurization and air-conditioning systems, oxygen systems;
- (v) Hydraulic and pneumatic systems;
- (vi) Basic electrical theory, electric systems (AC and DC), aircraft wiring systems, bonding, and screening;
- (vii) Principles of operation of instruments, compasses, autopilots, radio communication equipment, radio and radar navigation aids, flight management systems, displays and avionics;
- (viii) Limitations of appropriate aircraft;
- (ix) Fire protection, detection, suppression and extinguishing systems; and
- (x) Use and serviceability checks of equipment and systems of appropriate aircraft;

(7) Engine familiarization to include—

- (i) Basic principles of powerplants, gas turbines, and/or piston engines;
- (ii) Characteristics of fuels, fuel systems including fuel control;
- (iii) Lubricants and lubrication systems; and
- (iv) Afterburners and injection systems, function and operation of engine ignition and starter systems;

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(8) Normal operations (ground and flight) to include—

(i) Principles of maintenance, procedures for the maintenance of airworthiness, defect reporting, preflight inspections, precautionary procedures for fueling and use of external power; installed equipment and cabin systems and

(ii) Operational procedures for carriage of freight and dangerous goods.

(9) Abnormal operations;

(10) Emergency operations to include—

(i) Landing gear, brake, flap, speed brake, and leading edge device failures;

(ii) Pressurization and air-conditioning failures;

(iii) Portable fire extinguishers;

(iv) Fuselage fire and smoke control;

(v) Loss of electrical power;

(vi) Engine fire control;

(vii) Engine shutdown and restart; and

(viii) Use of oxygen;

(11) Basic meteorology with respect to engine operations;

(12) Center of gravity computations;

(13) Radiotelephony to include communication procedures and phraseology;

(14) Use and practical application of performance data including procedures for autopilot;

(15) Effects of loading and mass distribution on aircraft performance and flight characteristics,

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mass and balance calculations;

(16) Human performance relevant to the flight engineer, including principles of threat and error management;

(17) Fundamentals of navigation;

(18) Principles of operation of self-contained systems; and

(19) Operational aspects of meteorology.

IV. Flight Training.

(a) Each approved course must include flight training for a student, under the supervision of a person accepted by the President for that purpose, of not less than 100 hours of flight time in the performance of the duties listed in paragraph (d) of this section. The applicant may be credited with no more than 50 hours for experience accrued in an approved FSTD. If the applicant has accrued flight time as a pilot, the President may mitigate the requirements of this appendix.

(b) The flight training curriculum must include at least 10 hours of flight instruction on an airplane—

(1) On which a flight engineer is required or

(2) That has at least three engines that are rated at least 600 kW each or the equivalent in turbine-powered engines.

(c) The flight time required for the practical test may not be credited as part of the required flight instruction.

(d) The flight training curriculum must include the flight training on the approved areas of operation listed in this paragraph that are appropriate to the rating:

(1) Normal procedures.

(i) Preflight inspection.

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- (ii) Fueling procedures, fuel management.
- (iii) Inspection of maintenance documents.
- (iv) Normal flightdeck procedures during all phases of flight.
- (v) Crew coordination and procedures in case of crew incapacitation.
- (vi) Defect reporting.

(2) Abnormal and alternate procedures.

- (i) Recognition of abnormal functioning of aircraft systems.
- (ii) Use of abnormal and alternate procedures.

(3) Emergency procedures.

- (i) Recognition of emergency conditions.
- (ii) Use of appropriate emergency procedures.

(e) The applicant must demonstrate the ability to perform, as flight engineer of an aircraft, the duties and procedures described in paragraph (d) of this section with a degree of competency appropriate to the privileges granted to the holder of a flight engineer certificate, and—

- (1) To recognize and manage threats and errors;
 - (2) To use aircraft systems within the aircraft's capabilities and limitations;
 - (3) To exercise good judgment and airmanship;
 - (4) To apply aeronautical knowledge;
 - (5) To perform all the duties as part of an integrated crew with the successful outcome assured;
- and

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(6) To communicate effectively with the other flight crew members.

V. Stage Checks and End-of-Course Tests.

Each student enrolled in a flight engineer course must satisfactorily accomplish the stage checks and end-of-course tests, in accordance with the school's approved training course, consisting of the approved areas of operation listed in paragraph (d) of Section V of this appendix that are appropriate to the aircraft category and class aircraft rating to which the course applies.

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**APPENDIX B TO GACAR PART 143 – CABIN CREW MEMBER CERTIFICATION
COURSE**

I. Applicability.

This appendix prescribes the minimum curriculum required for a cabin crew member certification course under this part.

II. Aircraft Class Endorsements.

To be eligible for an additional aircraft class endorsement after his cabin crew member certificate with an aircraft class endorsement is issued to him, an applicant must pass the knowledge test appropriate to the class of aircraft for which an additional aircraft class endorsement is sought, and—

- (a) Pass the practical test for that class of aircraft or
- (b) Satisfactorily complete an approved cabin crew member training course appropriate to the additional aircraft class endorsement sought.

III. Knowledge Training.

- (a) Each approved course must include at least 40 hours of ground training on the following knowledge areas:
 - (1) General knowledge of aviation theory and GACAR covering all elements relevant to the duties and responsibilities required from cabin crew members.
 - (2) Communication between cabin crew members and flight crew members.
 - (3) Introductory course on human factors in aviation and crew resource management (CRM).
 - (4) Passenger handling and cabin surveillance.
 - (5) Aeromedical aspects and first aid.
 - (6) Dangerous goods.

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- (7) General security aspects in aviation, including awareness of applicable requirements.
- (8) Fire and smoke training.
- (9) Survival training.

(b) Each approved course must include at least the following ground training on the approved areas of operation listed in paragraph (a) of this section, appropriate to the aircraft class endorsement:

- (1) Turbopropeller-powered airplanes—8 hours.
- (2) Turbojet-powered airplanes—8 hours.
- (3) Rotorcraft—8 hours.

(c) Each approved course must include ground training on the approved areas of operation listed in this paragraph appropriate to the aircraft class endorsement specified in paragraph (b) of this section—

- (1) A general description of the aircraft class, emphasizing physical characteristics that may have a bearing on ditching, evacuation, and in-flight emergency procedures and on other related duties;
- (2) The use of the public address system and the means of communicating with flight crew members, including emergency procedures in the case of attempted hijacking or other unusual situations; and
- (3) Proper use of electrical galley equipment and the controls for cabin heat and ventilation.

IV. Practical Training.

Each approved course must include practical training on the approved areas of operation listed in this section appropriate to the aircraft class endorsement.

(a) ***Emergency evacuation equipment.*** Training must include—

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- (1) Equipment used in ditching and evacuation,
- (2) Emergency lighting systems,
- (3) Emergency exits with evacuation slide/raft pack attached if applicable, and
- (4) Evacuation slide/raft pack transfer from door to door if applicable.

(b) **Emergency situations**. Training must include instruction on—

- (1) Fire in flight and smoke control,
- (2) Rapid decompression,
- (3) Ditching and evacuation,
- (4) Medical emergencies,
- (5) Security emergencies, and
- (6) Respiration, hypoxia, duration of consciousness without supplemental oxygen at altitude, gas expansion, gas bubble formation, and physical phenomena.

(c) **Equipment checks**. Training must include preflight checks of appropriate aircraft equipment, including—

- (1) Hand fire extinguishers,
- (2) Flotation devices,
- (3) Portable oxygen systems, and
- (4) Survival equipment.

(d) **Firefighting**. Training must include—

- (1) Firefighting,

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(2) Operation of each type of fire extinguisher, and

(3) Portable breathing equipment.

(e) **First aid.** Training must include—

(1) Appropriate aeromedical procedures and

(2) First aid procedures.

V. Stage Checks and End-of-Course Tests.

(a) Students enrolled in a cabin crew member course must complete an initial training course to familiarize themselves with the aviation environment and to acquire sufficient general knowledge and basic proficiency required to perform the duties and discharge the responsibilities related to the safety of passengers and flight during normal, abnormal, and emergency operations.

(b) The program of the initial training course must cover at least the elements specified in Section IV of this appendix. It must include knowledge and practical training.

(c) Students enrolled in a cabin crew member course must undergo an end-of-course test covering all elements of the training program specified in paragraph (b) of this section, except CRM training, to demonstrate that they have attained the level of knowledge and proficiency required in paragraph (a) of this section.

(d) Each student enrolled in a cabin crew member course must satisfactorily accomplish the stage checks and end-of-course tests, in accordance with the school's approved training course, consisting of the approved areas of operation listed in Section IV of this appendix appropriate to the aircraft class endorsement to which the course applies.

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**APPENDIX C TO GACAR PART 143 – AIRCRAFT DISPATCHER
CERTIFICATION COURSE**

I. Applicability.

This appendix prescribes the minimum curriculum required for an aircraft dispatcher certification course under this part.

II. Eligibility for Enrollment.

Prior to enrolling in a dispatcher certification course a student must present satisfactory evidence of successful completion of academic level Grade 10 or equivalent as deemed by the President.

III. Knowledge Training.

(a) Each approved course must include at least 200 hours of ground training on the following knowledge areas:

(1) *Regulations.*

(i) GACAR Parts 1, 5, 7, 25, 29, 61, 65, 71, 91, 93, 97, 99, 109, 117, 121, 139, and 193.

(ii) ICAO Annex 6

(2) *Basic Weather Studies.*

(i) The earth's motion and its effects on weather.

(ii) Analysis of the following regional weather types, characteristics, and structures, or combinations thereof:

(A) Maritime.

(B) Continental.

(C) Polar.

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(D) Tropical.

(iii) Analysis of the following local weather types, characteristics, and structures or combinations thereof:

(A) Coastal.

(B) Mountainous.

(C) Island.

(D) Plains.

(iv) The following characteristics of the atmosphere:

(A) Layers.

(B) Composition.

(C) Global wind patterns.

(D) Ozone.

(v) Pressure:

(A) Units of measure.

(B) Weather systems characteristics.

(C) Temperature effects on pressure.

(D) Altimeters.

(E) Pressure gradient force.

(F) Pressure pattern flying weather.

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(vi) Wind:

- (A) Major wind systems and Coriolis Force.
- (B) Jetstreams and their characteristics.
- (C) Local wind and related terms.

(vii) States of Matter:

- (A) Solids, liquid, and gases.
- (B) Causes of change of state.

(viii) Clouds:

- (A) Composition, formation, and dissipation.
- (B) Types and associated precipitation.
- (C) Use of cloud knowledge in forecasting.

(ix) Fog:

- (A) Causes, formation, and dissipation.
- (B) Types.

(x) Ice:

- (A) Causes, formation, and dissipation.
- (B) Types.

(xi) Stability/Instability:

- (A) Temperature lapse rate, Convection.

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- (B) Adiabatic Processes.
 - (C) Lifting Processes.
 - (D) Divergence.
 - (E) Convergence.
- (xii) Turbulence:
- (A) Jetstream associated.
 - (B) Pressure pattern recognition.
 - (C) Low level windshear.
 - (D) Mountain waves.
 - (E) Thunderstorms.
 - (F) Clear Air Turbulence.
- (xiii) Air Masses:
- (A) Classification and characteristics.
 - (B) Source regions.
 - (C) Use of air mass knowledge in forecasting.
- (xiv) Fronts:
- (A) Structure and characteristics, both vertical and horizontal.
 - (B) Frontal types.
 - (C) Frontal weather flying.

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(xv) Theory of Storm Systems:

- (A) Thunderstorms.
- (B) Tornadoes.
- (C) Hurricanes and Typhoons.
- (D) Microbursts.
- (E) Causes, formation, and dissipation.

(3) *Weather, Analysis, and Forecasts.*

(i) Surface Observations:

- (A) Observations made by certified weather observer.
- (B) Automated weather observations.

(ii) Terminal Forecasts.

(iii) Significant En route Reports and Forecasts.

- (A) Pilot reports.
- (B) Area forecasts.
- (C) Sigmet, Airmets.
- (D) Center weather advisories.

(iv) Weather Imagery.

- (A) Surface Analysis.
- (B) Weather Depiction.

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- (C) Significant Weather Prognosis.
 - (D) Winds and Temperature Aloft.
 - (E) Tropopause Chart.
 - (F) Composite Moisture Stability Chart.
 - (G) Surface Weather Prognostic Chart.
 - (H) Radar Meteorology.
 - (I) Satellite Meteorology.
 - (J) Other charts as applicable.
-
- (v) Meteorological Information Data Collection Systems.
 - (vi) Data Collection, Analysis, and Forecast Facilities.
 - (vii) Service Outlets Providing Aviation Weather Products.
- (4) *Weather Related Aircraft Hazards.*
- (i) Crosswinds and Gusts.
 - (ii) Contaminated Runways.
 - (iii) Restrictions to Surface Visibility.
 - (iv) Turbulence and Windshear.
 - (v) Icing.
 - (vi) Thunderstorms and Microburst.
 - (vii) Volcanic Ash.

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(5) *Navigation.*

(i) Study of the Earth

(A) Time reference and location (0 Longitude, UTC).

(B) Definitions.

(C) Projections.

(D) Charts.

(ii) Chart Reading, Application, and Use.

(iii) Airspace.

(iv) Navigation Systems.

(v) Airborne Navigation Instruments.

(vi) Instrument Approach Procedures.

(A) Transition Procedures.

(B) Precision Approach Procedures.

(C) Non-precision Approach Procedures.

(D) Approach Procedures with Vertical Guidance (APV)

(E) Minimums and the relationship to weather.

(6) *Special Navigation and Operations.*

(i) Performance-based navigation (PBN)

(ii) North Atlantic.

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(iii) Pacific.

(iv) Global Differences.

(7) *Aircraft.*

(i) Aircraft Flight Manual.

(ii) Systems Overview.

(A) Flight controls.

(B) Hydraulics.

(C) Electrical.

(D) Air Conditioning and Pressurization.

(E) Ice and Rain protection.

(F) Avionics, Communication, and Navigation.

(G) Powerplants and Auxiliary Power Units.

(H) Emergency and Abnormal Procedures.

(I) Fuel Systems and Sources.

(iii) Minimum Equipment List/Configuration Deviation List (MEL/CDL) and Applications.

(iv) Performance.

(A) Aircraft in general.

(B) Principles of flight:

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(C) Aircraft Limitations.

(D) Mass and Balance.

(E) Flight instrument errors.

(F) Take-off performance.

(G) En route performance.

(H) Landing performance.

(8) *Communications.*

(i) Regulatory requirements.

(ii) Communication Protocol.

(iii) Voice and Data Communications.

(iv) Notice to Airmen (NOTAMS).

(v) Aeronautical Publications.

(vi) Abnormal Procedures.

(9) *Air Traffic Control.*

(i) Responsibilities.

(ii) Facilities and Equipment.

(iii) Airspace classification and route structure.

(iv) Flight Plans.

(A) Domestic.

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(B) International.

(v) Separation Minimums.

(vi) Priority Handling.

(vii) Holding Procedures.

(viii) Traffic Management.

(10) *Emergency and Abnormal Procedures.*

(i) Security measures on the ground.

(ii) Security measures in the air.

(iii) GACA responsibility and services.

(iv) Collection and dissemination of information on overdue or missing aircraft.

(v) Means of declaring an emergency.

(vi) Responsibility for declaring an emergency.

(vii) Required reporting of an emergency.

(viii) SAAIB reporting requirements.

(11) *Human Factors.*

(i) Decision Making including situation assessment, generation and evaluation of alternatives, tradeoffs and prioritization and contingency planning.

(ii) Human Error including causes, individual and organizational factors, technology-induced error, principles of threat and error management, prevention, detection and recovery.

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(iii) Teamwork and Resource Management.

- (A) Communication and information exchange.
- (B) Cooperative and distributed problem-solving.
- (C) Air Traffic Control (ATC) activities and workload.
- (D) Flight crew activities and workload.
- (E) Maintenance activities and workload.
- (F) Operations Control Staff activities and workload.

(12) *Applied Dispatching.*

(i) Briefing techniques, Dispatcher, Pilot.

(ii) Preflight:

- (A) Safety.
- (B) Weather Analysis.
- (C) NOTAMS and aerodrome conditions.
- (D) Crew qualifications and limitations.
- (E) Aircraft.
- (F) Operational flight planning including route of flight, operational altitudes, charts., minimum departure fuel.
- (G) Mass and balance.
- (H) Economics of flight (Performance, Fuel Tankering).

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(I) Decision to operate the Flight.

(J) ATC Flight Plan Filing.

(K) Flight documentation including the operational and ATC flight plans and the dispatch release.

(iii) Authorize flight departure with concurrence of pilot in command.

(iv) In-flight operational control:

(A) Current situational awareness.

(B) Information exchange.

(C) Amend original flight release as required.

(v) Post-Flight:

(A) Arrival verification.

(B) Weather debrief.

(C) Flight irregularity reports as required.

(b) The order of coverage of the subject areas prescribed in paragraph (a) of this section is at the discretion of the approved school.

IV. Practical Training.

Each approved course must have practical training in the applied dispatching areas of Section III (a)(11) of Appendix C to this GACAR Part 143 and in the following areas—

(a) Making an accurate and operationally acceptable weather analysis from a series of daily weather maps and weather reports; providing an operationally valid briefing on weather conditions prevailing in the general vicinity of a specific air route; forecasting weather trends pertinent to air transportation with particular reference to destination and alternates;

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- (b) Determining the optimum flight path for a given segment, and creating accurate manual and/or computer-generated flight plans;
- (c) Providing operating supervision and all other assistance to a flight in actual or simulated adverse weather conditions, as appropriate to the duties of an aircraft dispatcher certificate holder; and
- (d) Recognizing and managing threats and errors.

V. Stage Checks and End-of-Course Tests.

Each person enrolled in a ground school course must satisfactorily accomplish the stage checks and end-of-course tests, in accordance with the school's approved training course, consisting of the approved areas of operation appropriate to the operating privileges or authorization that graduation from the course will permit and to which the course applies. The student must have demonstrated, at a level appropriate to the privileges being granted, the skill, judgment and performance required including the recognition and management of threats and errors.