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**GACAR PART 141 – PILOT SCHOOLS**

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## GACAR PART 141 – PILOT SCHOOLS

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### SUBPART A – GENERAL

#### § 141.1 Applicability.

This part prescribes the requirements for issuing pilot school certificates, provisional pilot school certificates, associated ratings, and operations specifications. This part also prescribes the general operating rules, limitations, and privileges applicable to a holder of a certificate or rating issued under this part, including the issuance of graduation certificates as necessary to meet eligibility, renewal, or recent experience requirements for a pilot certificate under General Authority of Civil Aviation Regulation (GACAR) Part 61.

#### § 141.3 Certificate and Operations Specifications Required.

Except for ultralight vehicle operator schools, no person may operate a pilot school without, or in violation of, a pilot school certificate or provisional pilot school certificate and operations specifications issued under this part.

#### § 141.5 Eligibility and Requirements for a Pilot School Certificate.

The President may issue a pilot school certificate with the appropriate ratings if, within the 24 months before the date application is made, the applicant—

- (a) Completes the application for a pilot school certificate on the form and in the manner prescribed by the President;
- (b) Meets the applicable requirements under Subparts A through C of this part for the certificate and associated ratings sought;
- (c) Has held a provisional pilot school certificate;
- (d) Has established a pass rate of 80 percent or higher on the first attempt for all knowledge tests leading to a certificate or rating, practical tests leading to a certificate or rating, or end of course tests for an approved training course specified in Appendix J to this part; and
- (e) Has graduated at least 10 different people from the school's approved training courses.

#### § 141.7 Provisional Pilot School Certificate.

An applicant that meets the applicable requirements of Subparts A, B, and C of this part, but does

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not meet the recent training activity requirements of GACAR §§ 141.5(c) through (e), may be issued a provisional pilot school certificate with ratings.

### **§ 141.9 Examining Authority.**

The President issues examining authority to a pilot school holding a certificate issued under GACAR § 141.5 with respect to a training course if the pilot school and the training course meet the requirements of Subpart F of this part.

### **§ 141.11 Pilot School Ratings.**

(a) The ratings listed in paragraph (b) of this section may be issued to an applicant for—

(1) A pilot school certificate, provided the applicant meets the requirements of GACAR § 141.5; or

(2) A provisional pilot school certificate, provided the applicant meets the requirements of GACAR § 141.7.

(b) A pilot school may be authorized to conduct the following courses:

(1) Certification and rating courses. (Appendixes A through I and L to this part).

(i) Private pilot course,

(ii) Commercial pilot course,

(iii) Instrument rating course,

(iv) Airline transport pilot (ATP) course,

(v) Flight instructor course,

(vi) Flight instructor instrument course,

(vii) Ground instructor course,

(viii) Additional aircraft category or class rating course,

(ix) Aircraft type rating course, and

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(x) Combined private pilot certification and instrument rating course.

(2) Special preparation courses. (Appendix J to this part).

(i) Pilot refresher course,

(ii) Flight instructor refresher course,

(iii) Ground instructor refresher course, and

(iv) Special operations course.

(3) Pilot ground school course. (Appendix K to this part).

### **§ 141.13 Application for Issuance, Amendment, or Renewal.**

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

(b) Application for the issuance or amendment of a certificate or rating 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 allows the amendment.

(d) When the President proposes to amend, suspend, modify, or revoke all or part of any certificate, the procedure in GACAR § 13.19 applies.

(e) When the certificate holder applies for an amendment of its certificate, the following procedure applies:

(1) The certificate holder 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

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within a shorter period.

(2) The application must be submitted in the 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.

### **§ 141.15 Duration of Certificate and Examining Authority.**

(a) **General.** The holder of a pilot school certificate or a provisional pilot school certificate issued under this part may not exercise the privileges of that certificate after it expires.

(b) A pilot school certificate or a provisional pilot 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.

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

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

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

(d) An examining authority issued to the holder of a pilot school certificate expires on the date that the pilot school certificate expires, or is surrendered, suspended, or revoked.

### **§ 141.17 Carriage of Psychoactive Substances.**

If the holder of a certificate issued under this part permits any aircraft owned or leased by that holder to be engaged in any operation that the certificate holder knows to be in violation of GACAR § 91.23, that operation is a basis for suspending or revoking the certificate.

### **§ 141.19 Safety Management Systems.**

(a) A person applying to the President for pilot school certificate or provisional pilot school certificate under this part must demonstrate, as part of the application process under GACAR § 141.13, that it has a safety management system (SMS) that meets the standards set forth in GACAR

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Part 5 and is acceptable to the President.

(b) Pilot schools certificated under this part must have and maintain an SMS that meets the requirements of GACAR Part 5 and is acceptable to the President.

### **§ 141.21 Certificate Holder’s Duty To Maintain Operations Specifications.**

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

(b) Each certificate holder 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 certificate holder 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.

### **§ 141.23 Contents of Operations Specifications.**

Each certificate holder 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;

(c) The flight training programs offered by the certificate holder;

(d) The authorizations, limitations, and certain procedures under which each flight training program is to be conducted;

(e) Any other item the President determines is necessary.



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### **§ 141.25 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 § 13.19 applies.

(c) When the certificate holder applies for an amendment to its operations specifications, the following procedure applies:

(1) The certificate holder 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.

(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 certificate holder seeks reconsideration of a decision from the President concerning suspension, revocation, or amendment of a certificate, the procedures in GACAR Part 13 apply.

### **§ 141.27 Display of Certificate.**

(a) Each holder of a pilot school certificate or a provisional pilot school certificate 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,

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- (2) An authorized representative of the Aviation Investigation Bureau (AIB), or
- (3) Any law enforcement agency in the Kingdom of Saudi Arabia.

### **§ 141.29 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.

### **§ 141.31 Advertising Limitations.**

- (a) The holder of a pilot school certificate or a provisional pilot school certificate may not make any statement relating to its certification and ratings that is false or designed to mislead any person contemplating enrollment in that school.
- (b) The holder of a pilot school certificate or a provisional pilot school certificate must promptly remove—
  - (1) From vacated premises, all signs indicating that the school was certificated by the President; or
  - (2) All indications (including signs), wherever located, that the school is certificated by the President when its certificate has expired or has been surrendered, suspended, or revoked.

### **§ 141.33 Business Office and Operations Base.**

- (a) Each holder of a pilot school certificate or a provisional pilot school certificate must maintain a principal business office with a mailing address in the business name shown on its certificate.
- (b) The facilities and equipment at the principal business office must be adequate to maintain the files and records required to operate the business of the school.
- (c) The principal business office may not be shared with, or used by, another pilot school.
- (d) Each holder of a pilot school certificate or a provisional pilot school certificate must maintain at least one operations base which may be at the same location as its principle business office.
- (e) Before changing the location of the principal business office or the principal operations base,

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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.

(f) A certificate holder may conduct training at an operations base other than its principal operations base in accordance with GACAR § 141.149.

### **§ 141.35 Training Agreements.**

A training center certificated under GACAR Part 142 may provide the training, testing, and checking for pilot schools certificated under GACAR Part 141, and is considered to meet the requirements of GACAR Part 141, provided—

- (a) There is a training, testing, and checking agreement between the certificated training center and the pilot school;
- (b) The training, testing, and checking provided by the certificated training center is approved and conducted under GACAR Part 142;
- (c) The pilot school certificated under GACAR Part 141 obtains the President’s approval for a training course outline that includes the portion of the training, testing, and checking to be conducted under GACAR Part 141 and the training, testing, and checking to be conducted under GACAR Part 142; and
- (d) Upon completion of the training, testing, and checking conducted under GACAR Part 142, a copy of each student’s training record is forwarded to the GACAR Part 141 school and becomes part of the student’s permanent training record.

### **§ 141.37 Renewal of Certificates and Ratings.**

(a) Pilot school holding a pilot school certificate—

- (1) A pilot school holding a pilot school certificate issued under GACAR § 141.5 may apply for renewal of its certificate and ratings within 30 days preceding the month the pilot school’s certificate expires, provided the school meets the requirements prescribed in paragraph (a)(2) of this section for renewal of its certificate and ratings.

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(2) A pilot school holding a pilot school certificate issued under GACAR § 141.5 may have its certificate and ratings renewed for an additional 24 months if the President determines the school's personnel, aircraft, facility and aerodrome, approved training courses, training records, and recent training ability and quality meet the requirements of this part.

(3) A pilot school that does not meet the renewal requirements in paragraph (a)(2) of this section, may apply for a provisional pilot school certificate if the school meets the requirements of GACAR § 141.7.

(b) Pilot school holding a provisional pilot school certificate—

(1) Except as provided in paragraph (b)(3) of this section, a pilot school holding a provisional pilot school certificate issued under GACAR § 141.7 may not have that certificate or the ratings on that certificate renewed.

(2) A pilot school holding a provisional pilot school certificate may apply for a pilot school certificate and associated ratings provided that school meets the requirements of GACAR § 141.5.

(3) An applicant that previously held a provisional pilot school certificate may apply for another provisional pilot school certificate, provided 180 days have elapsed since its last provisional pilot school certificate expired.

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**SUBPART B – PERSONNEL, AIRCRAFT, AND FACILITIES REQUIREMENTS**

**§ 141.47 Applicability.**

(a) This subpart prescribes—

- (1) The personnel and aircraft requirements for a pilot school certificate or a provisional pilot school certificate and
- (2) The facilities that a pilot school must have available on a continuous basis.

(b) As used in this subpart—

- (1) To have continuous use of a pilot school facility other than an aerodrome, the pilot school must have—
  - (i) Ownership of the pilot school facility for at least 6 months after the date the application for initial certification and on the date of renewal of the school’s certificate or
  - (ii) A written lease agreement for the pilot school facility for at least 6 months after the date the application for initial certification and on the date of renewal of the school’s certificate.
- (2) To have continuous use of an aerodrome, the pilot school must satisfy the following requirements:
  - (i) The pilot school must have access to the aerodrome’s movement area, air traffic control (ATC) services, and navigation facilities sufficient to permit conduct of training operations without unreasonable limitation or delay during customary hours of operation; and
  - (ii) The pilot school must be party to a written agreement providing that the school will continue to have such access for at least 6 months after the date the application for initial certification and on the date of renewal of the school’s certificate.

**§ 141.49 Personnel.**

(a) An applicant for a pilot school certificate or for a provisional pilot school certificate must meet

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the following personnel requirements:

- (1) Each applicant must have adequate personnel, including certificated flight instructors, certificated ground instructors, or holders of a commercial pilot certificate with a lighter-than-air rating, and a chief instructor for each approved course of training who is qualified and competent to perform the duties to which that instructor is assigned.
- (2) If the applicant is to employ dispatchers, aircraft handlers, and line and service personnel, then it must instruct those persons in the procedures and responsibilities of their employment.
- (3) Each instructor to be used for ground or flight training must hold a flight instructor certificate, ground instructor certificate, or commercial pilot certificate with a lighter-than-air rating, as appropriate, issued under GACAR Part 61, with ratings for the approved course of training and any aircraft used in that course.
- (4) In addition to the requirements prescribed paragraph (a)(3) of this section, each instructor in an ATP certification training course for the airplane category multiengine class rating approved to meet the requirements of GACAR § 61.173(d) must:
  - (i) Hold an ATP certificate with an airplane category multiengine class rating;
  - (ii) Have at least 2 years of experience as PIC or SIC in any operation conducted under GACAR Part 121; and
  - (iii) If providing training in an FSTD, have received training and evaluation within the preceding 12 months from the certificate holder on—
    - (A) Proper operation of FSTD controls and systems;
    - (B) Proper operation of environmental and fault panels,
    - (C) Data and motion limitations of simulation;
    - (D) Minimum equipment requirements for each curriculum; and
    - (E) The maneuvers that will be demonstrated in the FSTD.

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(b) An applicant for a pilot school certificate or for a provisional pilot school certificate must designate a chief instructor for each of the school's approved training courses, who must meet the requirements of GACAR § 141.51.

(c) When necessary, an applicant for a pilot school certificate or for a provisional pilot school certificate may designate a person to be an assistant chief instructor for an approved training course, provided that person meets the requirements of GACAR § 141.57.

(d) A pilot school may designate a person to be a check instructor for conducting student stage checks, end-of-course tests, and instructor proficiency checks, provided—

(1) That person meets the requirements of GACAR § 141.59, and

(2) The school has an enrollment of at least 10 students at the time the person seeks to obtain designation as a check instructor.

(e) A pilot school must appoint an accountable manager who has authority to ensure that all requirements of this part are met by the pilot school.

(f) A person may serve in more than one position for a school, provided that person is qualified for each position.

### **§ 141.51 Chief Instructor Qualifications.**

(a) To be eligible for designation as a chief instructor for a course of training, a person must meet the following requirements:

(1) Hold a commercial pilot certificate or an ATP certificate, and, except for a chief instructor for a course of training solely for a lighter-than-air rating, a current flight instructor certificate, each issued under GACAR Part 61. The certificates must contain the appropriate aircraft category and class ratings for the category and class of aircraft used in the course and an instrument rating, if an instrument rating is required for enrollment in the course of training;

(2) Meet the pilot in command (PIC) recent flight experience requirements of GACAR § 61.17(a);

(3) Pass a knowledge test on—

(i) Teaching methods;

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(ii) Applicable provisions of the Kingdom of Saudi Arabia (KSA) Aeronautical Information Publication (AIP);

(iii) Applicable provisions of GACAR Parts 61, 91, and 141; and

(iv) The objectives and approved completion standards of the course for which the person seeks to obtain designation as chief instructor.

(4) Pass a proficiency test on instructional skills and ability to train students on the flight procedures and maneuvers appropriate to the course;

(5) Except for a course of training for gliders, balloons, or airships, the chief instructor must meet the applicable requirements in paragraphs (b), (c), and (d) of this section;

(6) A chief instructor for a course of training for gliders, balloons or airships is required to have only 40 percent of the hours required in paragraphs (b) and (d) of this section; and

(7) If the pilot school has or seeks examining authority with respect to a course of training, each chief instructor authorized to administer tests or checks pursuant to that course of training, as a result of the successful completion of which a student may be recommended for a certificate under GACAR § 141.123, must be designated by the President under GACAR Part 183.

(b) For a course of training leading to the issuance of a private pilot certificate or rating, a chief instructor must have—

(1) At least 1 000 hours as PIC; and

(2) Primary flight training experience, acquired as either a certificated flight instructor or an instructor in a military pilot flight training program, or a combination thereof, consisting of—

(i) At least 2 years and a total of 500 flight hours; or

(ii) At least 1 000 flight hours.

(c) For a course of training leading to the issuance of an instrument rating or a rating with instrument privileges, a chief instructor must have—



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(1) At least 100 hours of flight time under actual or simulated instrument flight conditions;

(2) At least 1 000 hours as PIC; and

(3) Instrument flight instructor experience, acquired as either a certificated flight instructor-instrument or an instructor in a military pilot flight training program, or a combination thereof, consisting of—

(i) At least 2 years and a total of 250 flight hours; or

(ii) At least 400 flight hours.

(d) For a course of training other than one leading to the issuance of a private pilot certificate or rating, or an instrument rating or a rating with instrument privileges, a chief instructor must have—

(1) At least 2 000 hours as PIC; and

(2) Flight training experience, acquired as either a certificated flight instructor or an instructor in a military pilot flight training program, or a combination thereof, consisting of—

(i) At least 3 years and a total of 1 000 flight hours; or

(ii) At least 1 500 flight hours.

(e) To be eligible for designation as chief instructor for a ground school course, a person must have at least 1 year of experience as a ground school instructor at a certificated pilot school.

### **§ 141.53 Chief Instructor Responsibilities.**

(a) A chief instructor designated for a pilot school is responsible for—

(1) Certifying each student's training record, graduation certificate, stage check and end-of-course test reports, and recommendation for course completion, unless the duties are delegated by the chief instructor to an assistant chief instructor or recommending instructor;

(2) Ensuring that each certificated flight instructor, certificated ground instructor, or commercial pilot with a lighter-than-air rating passes an initial proficiency check prior to that instructor being assigned instructing duties in the school's approved training course, and

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thereafter that the instructor passes a recurrent proficiency check every 12 months after the month in which the initial test was accomplished;

(3) Ensuring that each student accomplishes the required stage checks and end-of-course tests in accordance with the school's approved training course; and

(4) Maintaining training techniques, procedures, and standards for the school that are acceptable to the President.

(b) The chief instructor or an assistant chief instructor must be available at the pilot school or, if away from the pilot school, be available by telephone, radio, or other electronic means during the time that training is given for an approved training course.

(c) The chief instructor may delegate authority for conducting stage checks, end-of-course tests, and flight instructor proficiency checks to the assistant chief instructor or a check instructor.

### **§ 141.55 Change of Chief Instructor.**

Whenever a pilot school makes a change of designation of its chief instructor, that school—

(a) Must immediately provide the President with written notification of the change;

(b) May conduct training without a chief instructor for that training course for a period not to exceed 60 days while awaiting the designation and approval of another chief instructor;

(c) May, for a period not to exceed 60 days, have the stage checks and end-of-course tests administered by—

(1) The training course's assistant chief instructor, if one has been designated;

(2) The training course's check instructor, if one has been designated;

(3) A GACA inspector; or

(4) A designated examiner who is not an employee of the pilot school.

(d) Must, after 60 days without a chief instructor, cease operations and surrender its certificate to the President; and

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(e) May have its certificate reinstated, upon—

- (1) Designation of another chief instructor and approval of that chief instructor by the President;
- (2) Showing it meets the requirements of GACAR § 141.63(a)(2); and
- (3) Applying for reinstatement on a form and in a manner prescribed by the President.

### **§ 141.57 Assistant Chief Instructor Qualifications.**

(a) To be eligible for designation as an assistant chief instructor for a course of training, a person must meet the following requirements:

- (1) Hold a commercial pilot or an ATP certificate and, except for the assistant chief instructor for a course of training solely for a lighter-than-air rating, a current flight instructor certificate, each issued under GACAR Part 61. The certificates must contain the appropriate aircraft category, class, and instrument ratings if an instrument rating is required by the course of training for the category and class of aircraft used in the course.
- (2) Meet the PIC recent flight experience requirements of GACAR § 61.17(a).
- (3) Pass a knowledge test on—
  - (i) Teaching methods;
  - (ii) Applicable provisions of the KSA AIP;
  - (iii) Applicable provisions of GACAR Parts 61, 91, and 141; and
  - (iv) The objectives and approved completion standards of the course for which the person seeks to obtain designation as an assistant chief instructor.
- (4) Pass a proficiency test on the flight procedures and maneuvers appropriate to that course.
- (5) Meet the applicable requirements in paragraphs (b), (c), and (d) of this section. However, an assistant chief instructor for a course of training for gliders, balloons, or airships is required to have only 40 percent of the hours required in paragraphs (b) and (d) of this section.

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(6) If the pilot school has or seeks examining authority with respect to a course of training, each assistant chief instructor authorized to administer tests or checks pursuant to that course of training, as a result of the successful completion of which a student may be recommended for a certificate under GACAR § 141.123, must be designated by the President under GACAR Part 183.

(b) For a course of training leading to the issuance of a private pilot certificate or rating, an assistant chief instructor must have—

(1) At least 500 hours as PIC; and

(2) Flight training experience, acquired as either a certificated flight instructor or an instructor in a military pilot flight training program, or a combination thereof, consisting of—

(i) At least 1 year and a total of 250 flight hours or

(ii) At least 500 flight hours.

(c) For a course of training leading to the issuance of an instrument rating or a rating with instrument privileges, an assistant chief flight instructor must have—

(1) At least 50 hours of flight time under actual or simulated instrument flight conditions;

(2) At least 500 hours as PIC; and

(3) Instrument flight instructor experience, acquired as either a certificated flight instructor-instrument or an instructor in a military pilot flight training program, or a combination thereof, consisting of—

(i) At least 1 year and a total of 125 flight hours or

(ii) At least 200 flight hours.

(d) For a course of training other than one leading to the issuance of a private pilot certificate or rating, or an instrument rating or a rating with instrument privileges, an assistant chief instructor must have—

(1) At least 1 000 hours as PIC; and

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(2) Flight training experience, acquired as either a certificated flight instructor or an instructor in a military pilot flight training program, or a combination thereof, consisting of—

(i) At least 1.5 years and a total of 500 flight hours or

(ii) At least 750 flight hours.

(e) To be eligible for designation as an assistant chief instructor for a ground school course, a person must have at least 6 months of experience as a ground school instructor at a certificated pilot school.

### **§ 141.59 Check Instructor Qualifications.**

(a) To be designated as a check instructor for conducting student stage checks, end-of-course tests, and instructor proficiency checks under this part, a person must meet the following eligibility requirements of this section:

(1) For checks and tests that relate to either flight or ground training, the person must pass a test, given by the chief instructor, on—

(i) Teaching methods;

(ii) Applicable provisions of the KSA AIP;

(iii) Applicable provisions of GACAR Parts 61, 91, and 141; and

(iv) The objectives and completion standards of the approved training course for which the person seeks to obtain designation as a check instructor.

(2) For checks and tests that relate to a flight-training course, the person must—

(i) Meet the requirements in paragraph (a)(1) of this section;

(ii) Hold a commercial pilot certificate or an ATP certificate and, except for a check instructor for a course of training for a lighter-than-air rating, a current flight instructor certificate. The certificates must contain the appropriate aircraft category, class, and instrument ratings for the category and class of aircraft used in the course;

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- (iii) Meet the PIC recent flight experience requirements of GACAR § 61.17(a); and
  - (iv) Pass a proficiency test, given by the chief instructor or assistant chief instructor, on the flight procedures and maneuvers of the approved training course for which the person seeks to obtain designation as a check instructor.
- (3) For checks and tests that relate to ground training, the person must—
- (i) Meet the requirements in paragraph (a)(1) of this section;
  - (ii) Except for a course of training for a lighter-than-air rating, hold a current flight instructor certificate or ground instructor certificate with ratings appropriate to the category and class of aircraft used in the course;
  - (iii) For a course of training for a lighter-than-air rating, hold a commercial pilot certificate with a lighter-than-air category rating and the appropriate class rating.
- (4) If the pilot school has or seeks examining authority with respect to a course of training, each check instructor authorized to administer tests or checks pursuant to that course of training, as a result of the successful completion of which a student may be recommended for a certificate under GACAR § 141.123, must be designated by the President under GACAR Part 183.
- (b) A person who meets the eligibility requirements in paragraph (a) of this section must—
- (1) Be designated, in writing, by the chief instructor to conduct student stage checks, end-of-course tests, and instructor proficiency checks and
  - (2) Be approved by the President.
- (c) A check instructor may not conduct a stage check or an end-of-course test of any student for whom the check instructor has—
- (1) Served as the principal instructor or
  - (2) Recommended for a stage check or end-of-course test.

### § 141.61 Aerodromes.

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(a) An applicant for a pilot school certificate or a provisional pilot school certificate must show that he has continuous use of each aerodrome at which training flights originate.

(b) Each aerodrome used for airplanes and gliders must have at least one runway or take-off area that allows training aircraft to make a normal takeoff or landing under the following conditions at the aircraft's maximum certificated take-off gross mass:

(1) Under wind conditions of not more than 4 kt (2.1 m/s);

(2) At temperatures in the operating area equal to the mean high temperature for the hottest month of the year;

(3) If applicable, with the powerplant operation, and landing gear and flap operation recommended by the manufacturer; and

(4) In the case of a takeoff—

(i) With smooth transition from liftoff to the best rate of climb speed without exceptional piloting skills or techniques and

(ii) Clearing all obstacles in the take-off flight path by at least 50 ft (15 m).

(c) Each aerodrome must have a wind direction indicator that is visible from the end of each runway at ground level.

(d) Except as provided in paragraph (e) of this section, each aerodrome used for night training flights must have permanent runway lights.

(e) An aerodrome used for night training flights in seaplanes is permitted to use adequate nonpermanent lighting or shoreline lighting, if approved by the President.

### § 141.63 Aircraft.

(a) *For operations bases located within the Kingdom of Saudi Arabia.* An applicant for a pilot school certificate or provisional pilot school certificate must show that each aircraft used by the school for flight training and solo flights—

(1) Except as provided in paragraph (a)(7) of this section, is a civil aircraft of the Kingdom of

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Saudi Arabia.

(2) Is certificated with one of the following, unless the President determines otherwise because of the nature of the approved course:

(i) A standard airworthiness certificate or

(ii) A special airworthiness certificate for aircraft certificated in the primary category or for light-sport aircraft.

(3) Except as provided for in paragraph (a)(6) and (a)(7) of this section, is maintained and inspected in accordance with the requirements for aircraft operated for hire under Subpart E of GACAR Part 91.

(4) Has two pilot stations with engine-power controls that can be easily reached and operated in a normal manner from both pilot stations (for flight training).

(5) Is equipped and maintained for instrument flight rules (IFR) en-route operations if used in a course involving IFR en route operations and instrument approaches. For training in the control and precision maneuvering of an aircraft by reference to instruments, the aircraft may be equipped as provided in the approved course of training.

(6) For commuter category airplanes and transport category aircraft, the aircraft are operated by a certificate holder issued under GACAR Part 119.

(7) The President may authorize use of foreign registered aircraft of an ICAO Contracting State provided:

(i) The State of Registry accepts the terms and conditions of the arrangement;

(ii) The aircraft is certificated with a standard airworthiness certificate (or an equivalent certification) from the State of registry;

(iii) The aircraft is maintained in accordance with maintenance and inspection requirements of the State of registry that are equivalent to those prescribed by this paragraph; and

(iv) The President is satisfied the flight training operations can be conducted safely with

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the foreign registered aircraft.

(b) ***For operations bases located outside the Kingdom of Saudi Arabia and when the training will be conducted outside the Kingdom of Saudi Arabia.*** An applicant for a pilot school certificate or provisional pilot school certificate must show that each aircraft used by the school for flight training and solo flights—

(1) Is either a civil aircraft of the Kingdom of Saudi Arabia or a civil aircraft of foreign registry of an ICAO Contracting State.

(2) Is certificated with a standard airworthiness certificate or an equivalent certification from the State of registry.

(3) Is maintained and inspected in accordance with the requirements for aircraft operated for hire under Subpart E of GACAR Part 91 or GACAR Part 119 as applicable, or for foreign registered aircraft, in accordance with equivalent maintenance and inspection requirement of the State of registry.

(4) Has two pilot stations with engine-power controls that can be easily reached and operated in a normal manner from both pilot stations (for flight training).

(5) Is equipped and maintained for IFR operations if used in a course involving IFR en-route operations and instrument approaches. For training in the control and precision maneuvering of an aircraft by reference to instruments, the aircraft may be equipped as provided in the approved course of training.

### **§ 141.65 Flight Simulation Training Devices, Aviation Training Devices, and Training Aids.**

An applicant for a pilot school certificate or a provisional pilot school certificate must show that its flight simulation training devices (FSTD), aviation training devices (ATD), training aids, and equipment meet the following requirements:

(a) ***Full flight simulators (FFS).*** Each FFS used to obtain flight-training credit allowed for FFSs in an approved pilot training course curriculum must—

(1) Be a full-size aircraft flightdeck replica of a specific type of aircraft, or make, model, and series of aircraft;

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- (2) Include the hardware and software necessary to represent the aircraft in ground operations and flight operations;
- (3) Use a force cueing system that provides cues at least equivalent to those cues provided by a 3° freedom of motion system;
- (4) Use a visual system that provides at least a 45° horizontal field of view and a 30° vertical field of view simultaneously for each pilot; and
- (5) Have been evaluated, qualified, and approved under GACAR Part 60.

(b) ***Flight training devices (FTD)***. Each FTD used to obtain flight training credit allowed for FTDs in an approved pilot training course curriculum must—

- (1) Be a full-size replica of instruments, equipment panels, and controls of an aircraft, or set of aircraft, in an open flightdeck area or in an enclosed flightdeck, including the hardware and software for the systems installed that is necessary to simulate the aircraft in ground and flight operations;
- (2) Need not have a force (motion) cueing or visual system; and
- (3) Have been evaluated, qualified, and approved under GACAR Part 60.

(c) ***ATD***. Each ATD used to obtain flight-training credit allowed for ATDs in an approved pilot training course curriculum must have been evaluated, qualified, and approved under GACAR Part 60.

(d) ***Training aids and equipment***. Each training aid, including any audiovisual aid, projector, tape recorder, mockup, chart, or aircraft component listed in the approved training course outline, must be accurate and appropriate to the course for which it is used.

### **§ 141.67 Pilot Briefing Areas.**

(a) An applicant for a pilot school certificate or provisional pilot school certificate must show that the applicant has continuous use of a briefing area located at each aerodrome at which training flights originate that is—

- (1) Adequate to shelter students waiting to engage in their training flights;

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(2) Arranged and equipped for the conduct of pilot briefings; and

(3) Except as provided in paragraph (c) of this section, for a school with an instrument rating or commercial pilot course, equipped with private landline or telephone communication to the nearest GACA Aeronautical Information Service (AIS) provider.

(b) A briefing area required by paragraph (a) of this section may not be used by the applicant if it is available for use by any other pilot school during the period it is required for use by the applicant.

(c) The communication equipment required by paragraph (a)(3) of this section is not required if the briefing area and the AIS provider are located on the same aerodrome, and are readily accessible to each other.

### **§ 141.69 Ground Training Facilities.**

(a) An applicant for a pilot school or provisional pilot school certificate must show that—

(1) Except as provided in paragraph (c) of this section, each room, training booth, or other space used for instructional purposes is heated, lighted, and ventilated to conform to building, sanitation, and health codes.

(2) Except as provided in paragraph (c) of this section, the training facility is so located that the students in that facility are not distracted by the training conducted in other rooms, or by flight and maintenance operations on the aerodrome.

(b) If a training course is conducted through an internet-based medium, the holder of a pilot school certificate or provisional pilot school certificate that provides such training need not comply with paragraphs (a) and (b) of this section but must maintain in current status a permanent business location and business telephone number.

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**SUBPART C – MANUAL REQUIREMENTS**

**§ 141.79 General.**

Each pilot school must prepare and maintain a training and procedures manual, acceptable to the President, for the use of the pilot school’s personnel. The pilot school must ensure that the following requirements are satisfied:

- (a) The policies and procedures contained in the manual must not be contrary to any applicable GACAR.
- (b) Each pilot school must maintain at least one copy of the manual at each operations base at which it conducts training.
- (c) A copy of the manual, or the appropriate portions of the manual (and changes and additions) must be made available to personnel by the pilot school and furnished to—
  - (1) Its flight and ground instructors,
  - (2) Representatives of the GACA assigned to the pilot school, and
  - (3) Any other persons to whom the manual has been issued.
- (d) To comply with paragraph (c) of this section, a pilot 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 pilot 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 pilot 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.

**§ 141.81 Manual Contents.**

- (a) The training and procedures manual must contain at least the following information:

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- (1) A general description of the scope of training authorized under the school's certificate and operations specifications;
  - (2) Copies of the certificate holder's operations specifications or appropriate extracted information, including aircraft and training programs approved;
  - (3) The content of the training programs offered including the courseware and equipment to be used;
  - (4) A description of the quality assurance system required under Subpart D of this part;
  - (5) A description of the pilot school's facilities;
  - (6) The name, duties, and qualification of the person designated as the accountable executive and the management representative under GACAR Part 5;
  - (7) A description of the duties and qualifications of the chief instructor and assistant chief instructor (if applicable);
  - (8) A description of the procedures used by the pilot school to establish and maintain the competence of its flight and ground instructors under Subpart H of GACAR Part 61 and Appendix F to this part;
  - (9) A description of the method used for the completion and retention of training and qualification records under Subpart H of this part;
  - (10) For pilot schools holding examination authority, a description of the selection, role, and duties of the check instructors; and
  - (11) A training program to ensure that all instructors receive initial and continual training appropriate to assigned tasks and responsibilities. The training must include knowledge and skills related to human performance.
- (b) The pilot school must ensure that the training and procedures manual is amended as necessary to maintain current data.

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**SUBPART D – QUALITY ASSURANCE SYSTEM**

**§ 141.91 Quality Assurance System.**

(a) Each pilot school must establish a quality assurance system acceptable to the President. Personnel responsible for the implementation and maintenance of the quality assurance system must be identified by the pilot 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 pilot 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.

**§ 141.93 Quality of Training.**

(a) When requested by the President, a pilot school must allow the GACA to administer any knowledge test, practical test, stage check, or end of course test to its students.

(b) When a stage check or end of course test 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 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 approved by the President.

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**SUBPART E – TRAINING COURSE OUTLINE AND CURRICULUM**

**§ 141.103 Applicability.**

This subpart prescribes the curriculum and course outline requirements for the issuance of a pilot school certificate or provisional pilot school certificate and ratings.

**§ 141.105 Approval Procedures for a Training Course: General.**

(a) **General.** An applicant for a pilot school certificate or provisional pilot school certificate must obtain the President’s approval of the outline of each training course for which the applicant seeks to obtain a certification and rating.

(b) **Application.**

(1) An application for the approval of an initial or amended training course must be submitted in a manner and format acceptable to the President.

(2) An application for the approval of an initial or amended training course must be submitted 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 a pilot school certificate or provisional pilot school certificate may request approval for training courses specified under GACAR § 141.11(b).

(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 school notifies the GACA within 30 days of their insertion.

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

(3) The school must incorporate adequate security measures into its Internet-based courseware information system and into its operating and maintenance procedures to ensure

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the following fundamental areas of security and protection:

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

### **§ 141.107 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 and 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 aids used for ground training;
  - (3) A description of each FSTD used for training;
  - (4) A listing of the aerodromes at which training flights originate and a description of the facilities, including pilot briefing areas that are available for use by the school's students and personnel at each of those aerodromes;
  - (5) A description of the type of aircraft including any special equipment used for each phase of training;



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(6) The minimum qualifications and ratings for each instructor assigned to ground or flight training; and

(7) A training syllabus that includes the following information:

(i) The prerequisites for enrolling in the ground and flight portion of the course that include the pilot certificate and rating (if required by this part), training, pilot experience, and pilot knowledge;

(ii) A detailed description of each lesson, including the lesson's objectives, standards, 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.

(d) A pilot school may request and receive initial approval from the President for a period of not more than 24 months for any training course under this part that does not meet the minimum ground and flight training time requirements, provided the following provisions are met:

(1) The school holds a pilot school certificate issued under GACAR § 141.5 and has held that certificate for a period of at least 24 consecutive months preceding the month of the request.

(2) In addition to the information required by paragraph (c) of this section, the training course specifies planned ground and flight training time requirements for the course.

(3) The school does not request the training course to be approved for examining authority, nor may that school hold examining authority for that course.

(4) The practical test or knowledge test for the course is to be given by—

(i) A GACA aviation safety inspector or

(ii) A designated examiner who is not an employee of the pilot school.

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(e) A pilot school certificated under GACAR § 141.5 may request and receive final approval from the President for any training course under this part that does not meet the minimum ground and flight training time requirements, provided the following conditions are met:

(1) The school has held initial approval for that training course for at least 24 months.

(2) The school has—

(i) Trained at least 10 students in that training course within the preceding 24 months and recommended those students for a pilot, flight instructor, or ground instructor certificate or rating; and

(ii) At least 80 percent of those students passed the practical or knowledge test, as appropriate, on the first attempt, and that test was given by—

(A) A GACA aviation safety inspector or

(B) A designated examiner who is not an employee of the pilot school.

(3) In addition to the information required by paragraph (c) of this section, the training course specifies planned ground and flight training time requirements for the course.

(4) The school does not request that the training course be approved for examining authority nor may that school hold examining authority for that course.

### **§ 141.109 Special Curriculums.**

(a) An applicant for, or holder of, a pilot school certificate or provisional pilot school certificate 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 pilot school or pilot 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 – EXAMINING AUTHORITY**

**§ 141.119 Applicability.**

This subpart prescribes the requirements for the issuance of examining authority to the holder of a pilot school certificate issued under GACAR § 141.5, and the privileges and limitations of that examining authority.

**§ 141.121 Examining Authority Qualification Requirements.**

(a) A pilot school must meet the following prerequisites to receive initial approval from the President for examining authority:

(1) The school must complete the application for examining authority on a form and in a manner prescribed by the President.

(2) The school must hold a pilot school certificate issued under GACAR § 141.5 and appropriate rating issued under this part.

(3) The school must have held the rating in which examining authority is sought for at least 24 consecutive months preceding the month of application for examining authority.

(4) The training course for which examining authority is requested may not be a course that is approved without meeting the minimum ground and flight training time requirements of this part.

(5) Within 24 months before the date of application for examining authority, that school must meet the following requirements:

(i) The school must have trained at least 10 students in the training course for which it seeks to obtain examining authority and recommended those students for a pilot, flight instructor, or ground instructor certificate or rating and

(ii) At least 90 percent of those students passed the required practical or knowledge test, or any combination thereof, for the pilot, flight instructor, or ground instructor certificate or rating on the first attempt, and that test was given by—

(A) A GACA aviation safety inspector or

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(B) A designated examiner who is not an employee of the pilot school.

(6) The school must ensure that each chief instructor, assistant chief instructor, and check instructor authorized to administer tests or checks, as a result of the successful completion of which a student may be recommended for a certificate under GACAR § 141.123, has been designated by the President under GACAR Part 183.

(b) A pilot school must meet the following requirements to retain approval of its examining authority:

(1) The school must complete the application for renewal of its examining authority on a form and in a manner prescribed by the President.

(2) The school must hold a pilot school certificate issued under GACAR § 141.5.

(3) The school must have held the rating for which continued examining authority is sought for at least 24 months preceding the month of application for renewal of its examining authority.

(4) The training course for which continued examining authority is requested may not be a course that is approved without meeting the minimum ground and flight training time requirements of this part.

(5) The school must ensure that each chief instructor, assistant chief instructor, and check instructor authorized to administer tests or checks, as a result of the successful completion of which a student may be recommended for a certificate under GACAR § 141.123, has been designated by the President under GACAR Part 183.

### **§ 141.123 Privileges.**

A pilot school that holds examining authority may, in accordance with the provisions of this subpart, recommend a person who graduated from its course for the appropriate pilot, flight instructor, or ground instructor certificate or rating without taking the knowledge test or practical test required under GACAR Part 61.

### **§ 141.125 Limitations and Reports.**

A pilot school that holds examining authority may only recommend the issuance of a pilot, flight instructor, or ground instructor certificate and rating to a person who does not take a knowledge

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test or practical test, if the recommendation for the issuance of that certificate or rating is in accordance with the following requirements:

(a) The person graduated from a training course for which the pilot school holds examining authority.

(b) Except as provided in this paragraph, the person satisfactorily completed all the curriculum requirements of that pilot school's approved training course. A person who transfers from one GACAR Part 141 approved pilot school to another GACAR Part 141 approved pilot school may receive credit for that previous training, provided the following requirements are met:

(1) The maximum credited training time does not exceed one-half of the receiving school's curriculum requirements.

(2) The person completes a knowledge and proficiency test conducted by the receiving school for the purpose of determining the amount of pilot experience and knowledge to be credited.

(3) The receiving school determines (based on the person's performance on the knowledge and proficiency test required by paragraph (b)(2) of this section) the amount of credit to be awarded, and records that credit in the person's training record.

(4) The person who requests credit for previous pilot experience and knowledge obtained the experience and knowledge from another GACAR Part 141 approved pilot school and training course.

(5) The receiving school retains a copy of the person's training record from the previous school.

(c) Tests given by a pilot school that holds examining authority must be approved by the President and be at least equal in scope, depth, and difficulty to the comparable knowledge and practical tests required under GACAR Part 61.

(d) A pilot school that holds examining authority may not use its knowledge or practical tests if the school—

(1) Knows, or has reason to believe, the test has been compromised; or

(2) Is notified by the President that there is reason to believe or it is known that the test has

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been compromised.

(e) A pilot school that holds examining authority must maintain a record of all temporary airman certificates it issues, which consist of the following information:

(1) A chronological listing that includes—

(i) The date the temporary airman certificate was issued;

(ii) The student to whom the temporary airman certificate was issued, and that student's permanent mailing address and telephone number;

(iii) The training course from which the student graduated;

(iv) The name of the person who conducted the knowledge or practical test;

(v) The type of temporary airman certificate or rating issued to the student; and

(vi) The date the student's airman application file was sent to the GACA for processing for a permanent airman certificate.

(2) A copy of the record containing each student's graduation certificate, airman application, temporary airman certificate, superseded airman certificate (if applicable), and knowledge test or practical test results.

(3) The records required by paragraph (e) of this section must be retained for 2 years and made available to the President upon request. These records must be surrendered to the President when the pilot school ceases to have examining authority.

(f) When a student passes the knowledge test or practical test, each pilot school that holds examining authority must submit that student's airman application file and training record to the GACA for processing for the issuance of a permanent airman certificate.

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**SUBPART G – OPERATING RULES**

**§ 141.135 Applicability.**

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

**§ 141.137 Privileges.**

(a) The holder of a pilot school certificate or a provisional pilot school certificate may advertise and conduct approved pilot training courses in accordance with the certificate and any ratings that it holds.

(b) A pilot school that holds examining authority for an approved training course may recommend a graduate of that course for the issuance of an appropriate pilot, flight instructor, or ground instructor certificate and rating, without taking the knowledge test or practical test required under GACAR Part 61, provided the training course has been approved and meets the minimum ground and flight training time requirements of this part.

**§ 141.139 Aircraft Requirements.**

Each pilot school must ensure aircraft used for flight training and solo flights carry the checklists and handbooks prescribed in GACAR § 91.303(c).

**§ 141.141 Limitations.**

(a) The holder of a pilot school certificate or a provisional pilot school certificate may not issue a graduation certificate to a student, or recommend a student for a pilot certificate or rating, unless the student has—

(1) Completed the training specified in the pilot school's course of training and

(2) Passed the required final tests.

(b) Except as provided in paragraph (c) of this section, the holder of a pilot school certificate or a provisional pilot school certificate may not graduate a student from a course of training unless the student has completed all of the curriculum requirements of that course;

(c) A student may be given credit towards the curriculum requirements of a course for previous training under the following conditions:

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(1) If the student completed a proficiency test and knowledge test that was conducted by the receiving pilot school and the previous training was based on a GACAR Part 141 or a GACAR Part 142 approved flight training course, the credit is limited to not more than 50 percent of the flight training requirements of the curriculum.

(2) If the student completed a knowledge test that was conducted by the receiving pilot school and the previous training was based on a GACAR Part 141 or a GACAR Part 142 approved aeronautical knowledge training course, the credit is limited to not more than 50 percent of the aeronautical knowledge training requirements of the curriculum.

(3) If the student completed a proficiency test and knowledge test that was conducted by the receiving pilot school and the training was received from other than a GACAR Part 141 or a GACAR Part 142 approved flight training course, the credit is limited to not more than 25 percent of the flight training requirements of the curriculum.

(4) If the student completed a knowledge test that was conducted by the receiving pilot school and the previous training was received from other than a GACAR Part 141 or a GACAR Part 142 approved aeronautical knowledge training course, the credit is limited to not more than 25 percent of the aeronautical knowledge training requirements of the curriculum.

(5) Completion of previous training must be certified in the student's training record by the training provider or a management official within the training provider's organization, and must contain—

(i) The kind and amount of training provided and

(ii) The result of each stage check and end-of-course test, if appropriate.

### **§ 141.143 Flight Training.**

(a) No person other than a certificated flight instructor or commercial pilot with a lighter-than-air rating who has the ratings and the minimum qualifications specified in the approved training course outline may give a student flight training under an approved course of training.

(b) No student pilot may be authorized to start a solo practice flight from an aerodrome until the flight has been approved by a certificated flight instructor or commercial pilot with a lighter-than-air rating who is present at that aerodrome.



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(c) Each chief instructor and assistant chief instructor assigned to a training course must complete, at least once every 12 months, an approved syllabus of training consisting of ground or flight training, or both, or an approved flight instructor refresher course.

(d) Each certificated flight instructor or commercial pilot with a lighter-than-air rating who is assigned to a flight-training course must satisfactorily complete the following tasks, which must be administered by the school's chief instructor, assistant chief instructor, or check instructor:

(1) Prior to receiving authorization to train students in a flight-training course—

(i) Accomplish a review of and receive a briefing on the objectives and standards of that training course and

(ii) Accomplish an initial proficiency check in each make and model of aircraft used in that training course in which that person provides training.

(2) Every 12 months after the month in which the person last complied with the requirements of paragraph (d)(1)(ii) of this section, accomplish a recurrent proficiency check in one of the aircraft in which the person trains students.

### **§ 141.145 Ground Training.**

(a) Except as provided in paragraph (b) of this section, each instructor who is assigned to a ground training course must hold a flight or ground instructor certificate, or a commercial pilot certificate with a lighter-than-air rating, with the appropriate rating for that course of training.

(b) A person who does not meet the requirements of paragraph (a) of this section may be assigned ground training duties in a ground training course, if—

(1) The chief instructor who is assigned to that ground training course finds the person qualified to give that training.

(2) The training is given while under the supervision of the chief instructor or the assistant chief instructor who is present at the facility when the training is given.

(c) An instructor may not be used in a ground training course until that instructor has been briefed on the objectives and standards of that course by the chief instructor, assistant chief instructor, or check instructor.

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### **§ 141.147 Maintenance of Personnel, Facilities, and Equipment.**

The holder of a pilot school certificate or provisional pilot school certificate may not provide training to a student who is enrolled in an approved course of training unless—

- (a) Each aerodrome, aircraft, and facility necessary for that training meets the standards specified in the holder’s approved training course outline and the appropriate requirements of this part and
- (b) Except as provided in GACAR § 141.55, each chief instructor, assistant chief instructor, check instructor, or instructor meets the qualifications specified in the holder’s approved course of training and the appropriate requirements of this part.

### **§ 141.149 Satellite Base.**

The holder of a pilot school certificate or provisional pilot school certificate may conduct ground training or flight training in an approved course of training at a base other than its principal operations base if—

- (a) An assistant chief instructor is designated for each satellite base, and that assistant chief instructor is available at that base or, if away from the premises, by telephone, radio, or other electronic means during the time that training is provided for an approved training course;
- (b) The aerodrome, facilities, and personnel used at the satellite base meet the appropriate requirements of Subpart B of this part and its approved training course outline and the course of training and any needed amendments have been approved for use at that base;
- (c) The instructors are under the direct supervision of the chief instructor or assistant chief instructor for the appropriate training course, who is readily available for consultation in accordance with GACAR § 141.53(b); and
- (d) The President has inspected and approved the base for use by the certificate holder.

### **§ 141.151 Enrollment.**

(a) The holder of a pilot school certificate or a provisional pilot school certificate must, at the time a student is enrolled in an approved training course, furnish that student with a copy of the following:

- (1) A certificate of enrollment containing—

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- (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.

(3) Except for a training course offered through an Internet-based medium, a copy of the safety procedures and practices developed by the school that describe the use of the school's facilities and the operation of its aircraft. Those procedures and practices must include training on at least the following information:

- (i) The weather minimums required by the school for dual and solo flights;
- (ii) The procedures for starting and taxiing aircraft on the ramp;
- (iii) Fire precautions and procedures;
- (iv) Re-dispatch procedures after unprogrammed landings, on and off aerodromes;
- (v) Aircraft discrepancies and maintenance release determinations;
- (vi) Securing of aircraft when not in use;
- (vii) Fuel reserves necessary for local and cross-country flights;
- (viii) Avoidance of other aircraft in flight and on the ground;
- (ix) Minimum altitude limitations and simulated emergency landing instructions; and
- (x) A description of and instructions regarding the use of assigned practice areas.

(b) The holder of a pilot school certificate or provisional pilot school certificate must maintain a monthly listing of persons enrolled in each training course offered by the school.

### **§ 141.153 Graduation Certificate.**

(a) The holder of a pilot school certificate or provisional pilot school certificate must issue a graduation certificate to each student who completes its approved course of training.

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(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 of the school and the certificate number of the school;
- (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;
- (6) A certification of the information contained on the graduation certificate by the chief instructor for that course of training; and
- (7) A statement showing the cross-country training that the student received in the course of training.
- (8) Certificates issued upon graduating from a course based on Internet media must be uniquely identified using an identification code that is specific to the student graduating from that course.

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**SUBPART H – RECORDS**

**§ 141.161 Electronic Recordkeeping.**

(a) No certificate holder may use an electronic signature for records requiring a certifying statement unless the electronic signature system is approved by the President.

(b) No certificate holder may use an electronic recordkeeping system for any record required by this part unless the electronic recordkeeping system complies with paragraphs (c) through (e) of this section.

(c) **Storage and Retrieval.** A computer hardware and software system must have the capability to store and retrieve the records. The system must be capable of producing paper copies of the viewed information at the request of a GACA or SAAIB authorized representative.

(d) **Security.** Any electronic recordkeeping system must—

(1) Ensure that records are retained for the retention periods prescribed in this part.

(2) Protect confidential information.

(3) Ensure that the information is not altered in an unauthorized way.

(4) Have a corresponding policy and management structure to support the computer hardware and computer software that delivers the information.

(e) **Procedures.** Before employing an electronic recordkeeping system, a certificate holder must incorporate electronic recordkeeping procedures into its manual to include the following:

(1) Procedures for making required records available to authorized AIB personnel and GACA Inspectors. If the computer hardware and software system is not compatible with the GACA and AIB systems, the certificate holder must provide an employee or representative to assist in accessing the necessary computerized information.

(2) Procedures for reviewing the computerized personal identification codes system to ensure that the system will not permit password duplication.

(3) Procedures for auditing the computer system every 60 days to ensure the integrity of the

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system. A record of the audit must be completed and retained on file as part of the operator's record retention requirements. This audit may be a computer program that automatically audits itself.

(4) Audit procedures to ensure the integrity of each computerized workstation unless the workstations are server-based and contain no inherent attributes that enable or disable access.

(5) Procedures describing how the certificate holder will ensure that the electronic records are transmitted in accordance with the appropriate regulatory requirements.

(6) A description of the training procedure and requirements necessary to authorize access to the computer hardware and software system.

(7) For electronic record keeping systems employing digital or electronic signatures, guidelines for authorized representatives of the certificate holder to use electronic signatures and to have access to the appropriate records.

### **§ 141.163 Training Records.**

(a) Each holder of a pilot school certificate or provisional pilot school certificate must establish and maintain a current and accurate record of the participation of each student enrolled in an approved course of training conducted by the school that includes the following information:

(1) The date the student was enrolled in the approved course;

(2) A chronological log of the student's course attendance, subjects, and flight operations covered in the student's training, and the names and grades of any tests taken by the student; and

(3) 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 § 141.153(b)(8).

(b) The records required to be maintained in a student's logbook will not suffice for the record required by paragraph (a) of this section.

(c) Whenever a student graduates, terminates training, or transfers to another school, the student's

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record must be certified to that effect by the chief instructor.

(d) The holder of a pilot school certificate or a provisional pilot school certificate must retain each student record required by this section for at least 2 years from the date that the student—

- (1) Graduates from the course to which the record pertains;
- (2) Terminates enrollment in the course to which the record pertains; or
- (3) Transfers to another school.

(e) The holder of a pilot school certificate or a provisional pilot school certificate must make a copy of the student's training record available upon request by the student.

(f) A pilot school 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 pilot school, and must make each record available for inspection by the President during that period.

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**APPENDIX A TO GACAR PART 141 – PRIVATE PILOT CERTIFICATION COURSE**

**I. Applicability.**

This appendix prescribes the minimum curriculum for a private pilot certification course required under this part, for the following ratings:

- (a) Airplane single engine,
- (b) Airplane multiengine,
- (c) Rotorcraft helicopter,
- (d) Rotorcraft gyroplane,
- (e) Powered-lift,
- (f) Glider,
- (g) Lighter-than-air airship,
- (h) Lighter-than-air balloon,
- (i) Powered parachute, and
- (j) Weight-shift-control aircraft.

**II. Eligibility for Enrollment.**

A person must hold either a sport pilot certificate or student pilot certificate before enrolling in the solo flight phase of the private pilot certification course.

**III. Aeronautical Knowledge Training.**

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



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- (1) Airplane, rotorcraft, or powered-lift category rating: 35 hours of ground training;
  - (2) Glider category rating: 15 hours of ground training;
  - (3) Lighter-than-air category with a balloon class rating: 10 hours of ground training;
  - (4) Lighter-than-air category with an airship class rating: 35 hours of ground training; and
  - (5) Powered parachute or weight-shift-control aircraft category rating: 35 hours of ground training.
- (b) Ground training must include the following aeronautical knowledge areas:
- (1) Applicable GACAR for private pilot privileges, limitations, and flight operations;
  - (2) Accident reporting requirements of the AIB;
  - (3) Applicable subjects of the KSA AIP and the appropriate GACA circulars;
  - (4) Aeronautical charts for visual flight rules (VFR) navigation using pilotage, dead reckoning, and navigation systems;
  - (5) Radio communication procedures;
  - (6) Recognition of critical weather situations from the ground and in flight, windshear avoidance, and the procurement and use of aeronautical weather reports and forecasts;
  - (7) Safe and efficient operation of aircraft, including collision avoidance, and recognition and avoidance of wake turbulence;
  - (8) Effects of density altitude on take-off and climb performance;
  - (9) Mass and balance computations;
  - (10) Principles of aerodynamics, powerplants, and aircraft systems;
  - (11) If the course of training is for an airplane, powered-lift, glider, or weight-shift-control aircraft category rating, stall awareness, spin entry, spins, and spin recovery techniques;

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(12) Aeronautical decisionmaking and judgment; and

(13) Preflight action that includes—

(i) How to obtain information on runway lengths at aerodromes of intended use, data on take-off and landing distances, weather reports and forecasts, and fuel requirements and

(ii) How to plan for alternatives if the planned flight cannot be completed or delays are encountered.

### **IV. Flight Training.**

(a) Each approved course must include at least the following flight training, as provided in this section and Section V of this appendix, on the approved areas of operation listed in paragraph (d) of this section, appropriate to the aircraft category and class rating:

(1) Airplane, rotorcraft, powered-lift, or airship rating: 35 hours of flight training;

(2) Glider rating: 6 hours of flight training;

(3) Balloon rating: 16 hours of flight training;

(4) Powered parachute rating: 25 hours of flight training; and

(5) Weight-shift-control aircraft rating: 35 hours of flight training.

(b) Each approved course must include at least the following flight training:

(1) *For an airplane single-engine course:* 20 hours of flight training from a certificated flight instructor on the approved areas of operation in paragraph (d)(1) of this section that includes—

(i) At least 3 hours of cross-country flight training in a single-engine airplane;

(ii) At least 3 hours of night flight training in a single-engine airplane that—

(A) Includes one cross-country flight of more than 100 NM total distance and

(B) Includes 10 takeoffs and 10 landings to a full stop (with each landing involving

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a flight in the traffic pattern) at an aerodrome.

(iii) At least 3 hours of flight training in a single-engine airplane on the control and maneuvering of a single-engine airplane solely by reference to instruments, including straight and level flight, constant airspeed climbs and descents, turns to a heading, recovery from unusual flight attitudes, radio communications, and the use of navigation systems/facilities and radar services appropriate to instrument flight; and

(iv) At least 3 hours of flight training in a single-engine airplane in preparation for the practical test within 60 days preceding the date of the test.

(2) *For an airplane multi-engine course:* 20 hours of flight training from a certificated flight instructor on the approved areas of operation in paragraph (d)(2) of this section that includes—

(i) At least 3 hours of cross-country flight training in a multi-engine airplane;

(ii) At least 3 hours of night flight training in a multi-engine airplane—

(A) That includes one cross-country flight of more than 100 NM total distance and

(B) That includes 10 takeoffs and 10 landings to a full stop (with each landing involving a flight in the traffic pattern) at an aerodrome.

(iii) At least 3 hours of flight training in a multi-engine airplane on the control and maneuvering of a multi-engine airplane solely by reference to instruments, including straight and level flight, constant airspeed climbs and descents, turns to a heading, recovery from unusual flight attitudes, radio communications, and the use of navigation systems/facilities and radar services appropriate to instrument flight; and

(iv) At least 3 hours of flight training in a multi-engine airplane in preparation for the practical test within 60 days preceding the date of the test.

(3) *For a rotorcraft helicopter course:* 20 hours of flight training from a certificated flight instructor on the approved areas of operation in paragraph (d)(3) of this section that includes—

(i) At least 3 hours of cross-country flight training in a helicopter;

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(ii) At least 3 hours of night flight training in a helicopter that—

(A) Includes one cross-country flight of more than 50 NM total distance and

(B) Includes 10 takeoffs and 10 landings to a full stop (with each landing involving a flight in the traffic pattern) at an aerodrome.

(iii) Flight training in a suitably instrumented helicopter on the control and maneuvering of a helicopter solely by reference to instruments, including the completion of a level 180° turn; and

(iv) At least 3 hours of flight training in a helicopter in preparation for the practical test within 60 days preceding the date of the test.

(4) *For a rotorcraft gyroplane course:* 20 hours of flight training from a certificated flight instructor on the approved areas of operation in paragraph (d)(4) of this section that includes—

(i) At least 3 hours of cross-country flight training in a gyroplane;

(ii) At least 3 hours of night flight training in a gyroplane that includes—

(A) One cross-country flight over 50 NM total distance and

(B) Ten takeoffs and 10 landings to a full stop (with each landing involving a flight in the traffic pattern) at an aerodrome.

(iii) At least 2 hours of flight training in a gyroplane in preparation for the practical test within 60 days preceding the date of the test.

(5) *For a powered-lift course:* 20 hours of flight training from a certificated flight instructor on the approved areas of operation in paragraph (d)(5) of this section that includes—

(i) At least 3 hours of cross-country flight training in a powered-lift;

(ii) At least 3 hours of night flight training in a powered-lift that includes—

(A) One cross-country flight of more than 100 NM total distance and

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(B) Ten takeoffs and 10 landings to a full stop (with each landing involving a flight in the traffic pattern) at an aerodrome.

(iii) At least 3 hours of flight training in a powered-lift on the control and maneuvering of a powered-lift solely by reference to instruments, including straight and level flight, constant airspeed climbs and descents, turns to a heading, recovery from unusual flight attitudes, radio communications, and the use of navigation systems/facilities and radar services appropriate to instrument flight; and

(iv) At least 3 hours of flight training in a powered-lift in preparation for the practical test, within 60 days preceding the date of the test.

(6) *For a glider course:* 4 hours of flight training from a certificated flight instructor on the approved areas of operation in paragraph (d)(6) of this section that includes—

(i) At least 15 training flights in a glider with a certificated flight instructor on the launch/tow procedures approved for the course and on the appropriate approved areas of operation listed in paragraph (d)(6) of this section and

(ii) At least three training flights in a glider with a certificated flight instructor in preparation for the practical test within 60 days preceding the date of the test.

(7) *For a lighter-than-air airship course:* 20 hours of flight training from a commercial pilot with an airship rating on the approved areas of operation in paragraph (d)(7) of this section that includes—

(i) At least 3 hours of cross-country flight training in an airship, including at least one 25-NM cross-country flight;

(ii) At least 3 hours of night flight training in an airship that—

(A) Includes one cross-country flight over 25 NM total distance and

(B) Includes five takeoffs and five landings to a full stop (with each landing involving a flight in the traffic pattern) at an aerodrome.

(iii) At least 3 hours of instrument training in an airship; and

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(iv) At least 3 hours of flight training in an airship in preparation for the practical test within 60 days preceding the date of the test.

(8) *For a lighter-than-air balloon course:* 12 hours of flight training, including at least eight training flights, from a commercial pilot with a balloon rating on the approved areas of operation in paragraph (d)(8) of this section, that includes—

(i) If the training is being performed in a gas balloon—

(A) Two flights of 1 hour each,

(B) One flight involving a controlled ascent to 3 000 ft (900 m) above the launch site, and

(C) Two flights in preparation for the practical test within 60 days preceding the date of the test.

(ii) If the training is being performed in a balloon with an airborne heater—

(A) Two flights of 30 minutes each,

(B) One flight involving a controlled ascent to 2 000 ft (600 m) above the launch site, and

(C) Two flights in preparation for the practical test within 60 days preceding the date of the test.

(9) *For a powered parachute course:* 10 hours of flight training from a certificated flight instructor on the approved areas of operation in paragraph (d)(9) of this section that includes—

(i) At least 30 takeoffs and landings;

(ii) At least three takeoffs and landings (with each landing involving a flight in the traffic pattern) in an aircraft at an aerodrome with an operating control tower;

(iii) At least 1 hour of cross-country flight training in a powered parachute;

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(iv) At least 3 hours of night flight training in a powered parachute that includes 10 takeoffs and 10 landings to a full stop (with each landing involving a flight in the traffic pattern) at an aerodrome; and

(v) At least 3 hours of flight training in a powered parachute in preparation for the practical test within 60 days preceding the date of the test.

(10) *For a weight-shift-control aircraft course:* 20 hours of flight training from a certificated flight instructor on the approved areas of operation in paragraph (d)(10) of this section that includes—

(i) At least 3 hours of cross-country flight training in a weight-shift-control aircraft;

(ii) At least 3 hours of night flight training in a weight-shift-control aircraft that—

(A) Includes one cross-country flight of more than 75 NM total distance and

(B) Includes 10 takeoffs and 10 landings (with each landing involving a flight in the traffic pattern) at an aerodrome.

(iii) At least 3 hours of flight training in a weight-shift-control aircraft in preparation for the practical test within 60 days preceding the date of the test.

(c) For use of FSTDs:

(1) The course may include training in an FSTD, provided it is representative of the aircraft for which the course is approved, meets the requirements of this paragraph, and the training is given by an authorized instructor.

(2) Training in an FSTD that meets the requirements of GACAR § 141.65(a) or (b) may be credited for a maximum of 5 hours toward the total flight training hour requirements of the approved course.

(d) Each approved course must include the flight training on the approved areas of operation listed in this paragraph that are appropriate to the aircraft category and class rating—

(1) For a single-engine airplane course—

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- (i) Preflight preparation;
  - (ii) Preflight procedures;
  - (iii) Aerodrome operations;
  - (iv) Takeoffs, landings, and go arounds;
  - (v) Performance maneuvers;
  - (vi) Ground reference maneuvers;
  - (vii) Navigation;
  - (viii) Slow flight and stalls;
  - (ix) Basic instrument maneuvers;
  - (x) Emergency operations;
  - (xi) Night operations; and
  - (xii) Post-flight procedures.
- (2) For a multi-engine airplane course—
- (i) Preflight preparation;
  - (ii) Preflight procedures;
  - (iii) Aerodrome operations;
  - (iv) Takeoffs, landings, and go-arounds;
  - (v) Performance maneuvers;
  - (vi) Ground reference maneuvers;
  - (vii) Navigation;



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- (viii) Slow flight and stalls;
  - (ix) Basic instrument maneuvers;
  - (x) Emergency operations;
  - (xi) Multi-engine operations;
  - (xii) Night operations; and
  - (xiii) Post-flight procedures.
- (3) For a rotorcraft helicopter course—
- (i) Preflight preparation;
  - (ii) Preflight procedures;
  - (iii) Aerodrome operations;
  - (iv) Hovering maneuvers;
  - (v) Takeoffs, landings, and go-arounds;
  - (vi) Performance maneuvers;
  - (vii) Navigation;
  - (viii) Emergency operations;
  - (ix) Night operations; and
  - (x) Post-flight procedures.
- (4) For a rotorcraft gyroplane course—
- (i) Preflight preparation;

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- (ii) Preflight procedures;
  - (iii) Aerodrome operations;
  - (iv) Takeoffs, landings, and go-arounds;
  - (v) Performance maneuvers;
  - (vi) Ground reference maneuvers;
  - (vii) Navigation;
  - (viii) Flight at slow airspeeds;
  - (ix) Emergency operations;
  - (x) Night operations; and
  - (xi) Post-flight procedures.
- (5) For a powered-lift course—
- (i) Preflight preparation;
  - (ii) Preflight procedures;
  - (iii) Aerodrome operations;
  - (iv) Hovering maneuvers;
  - (v) Takeoffs, landings, and go-arounds;
  - (vi) Performance maneuvers;
  - (vii) Ground reference maneuvers;
  - (viii) Navigation;
  - (ix) Slow flight and stalls;

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- (x) Basic instrument maneuvers;
  - (xi) Emergency operations;
  - (xii) Night operations; and
  - (xiii) Post-flight procedures.
- (6) For a glider course—
- (i) Preflight preparation;
  - (ii) Preflight procedures;
  - (iii) Aerodrome operations;
  - (iv) Launches/tows, as appropriate, and landings;
  - (v) Performance speeds;
  - (vi) Soaring techniques;
  - (vii) Performance maneuvers;
  - (viii) Navigation;
  - (ix) Slow flight and stalls;
  - (x) Emergency operations; and
  - (xi) Post-flight procedures.
- (7) For a lighter-than-air airship course—
- (i) Preflight preparation;
  - (ii) Preflight procedures;

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- (iii) Aerodrome operations;
  - (iv) Takeoffs, landings, and go-arounds;
  - (v) Performance maneuvers;
  - (vi) Ground reference maneuvers;
  - (vii) Navigation;
  - (viii) Emergency operations; and
  - (ix) Post-flight procedures.
- (8) For a lighter-than-air balloon course—
- (i) Preflight preparation;
  - (ii) Preflight procedures;
  - (iii) Aerodrome operations;
  - (iv) Launches and landings;
  - (v) Performance maneuvers;
  - (vi) Navigation;
  - (vii) Emergency operations;
  - (viii) Post-flight procedures; and
  - (ix) Night operations, if privileges are to be exercised at night.
- (9) For a powered parachute course—
- (i) Preflight preparation;
  - (ii) Preflight procedures;

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- (iii) Aerodrome operations;
  - (iv) Takeoffs, landings, and go-arounds;
  - (v) Performance maneuvers;
  - (vi) Ground reference maneuvers;
  - (vii) Navigation;
  - (viii) Night operations;
  - (ix) Emergency operations; and
  - (x) Post-flight procedures.
- (10) For a weight-shift-control aircraft course—
- (i) Preflight preparation;
  - (ii) Preflight procedures;
  - (iii) Aerodrome operations;
  - (iv) Takeoffs, landings, and go-arounds;
  - (v) Performance maneuvers;
  - (vi) Ground reference maneuvers;
  - (vii) Navigation;
  - (viii) Slow flight and stalls;
  - (ix) Night operations;
  - (x) Emergency operations; and

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(xi) Post-flight procedures.

### **V. Solo Flight Training.**

Each approved course must include at least the following solo flight training:

(a) ***For an airplane single-engine course:*** 10 hours of solo flight training in a single-engine airplane on the approved areas of operation in paragraph (d)(1) of Section IV of this appendix that includes at least—

(1) Five hours of solo cross-country flight, including at least one 150-NM cross-country flight with full-stop landings at a minimum of three points and one segment of the flight consisting of a straight-line distance of more than 50 NM between the take-off and landing locations and

(2) Three takeoffs and three landings to a full stop (with each landing involving a flight in the traffic pattern) at an aerodrome with an operating control tower.

(b) ***For an airplane multi-engine course:*** 10 hours of solo flight training in an airplane, or 10 hours of flight training in a multi-engine airplane performing the duties of a PIC while under the supervision of a certificated flight instructor. The training must consist of the approved areas of operation in paragraph (d)(2) of Section IV of this appendix, and include at least—

(1) Five hours of cross-country flight, including at least one 150-NM cross-country flight with full stop landings at a minimum of three points and one segment of the flight consisting of a straight-line distance of more than 50 NM between the take-off and landing locations and

(2) Three takeoffs and three landings to a full stop (with each landing involving a flight in the traffic pattern) at an aerodrome with an operating control tower.

(c) ***For a rotorcraft helicopter course:*** 10 hours of solo flight training in a helicopter on the approved areas of operation in paragraph (d)(3) of Section IV of this appendix that includes at least—

(1) Five hours of solo cross-country flight, including at least one 100-NM cross-country flight with landings at a minimum of three points and one segment of the flight consisting of a straight-line distance of more than 25 NM between the take-off and landing location and

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(2) Three takeoffs and three landings to a full stop (with each landing involving a flight in the traffic pattern) at an aerodrome with an operating control tower.

(d) ***For a rotorcraft gyroplane course:*** 5 hours of solo flight training in gyroplanes on the approved areas of operation in paragraph (d)(4) of Section IV of this appendix that includes at least—

(1) One solo 100-NM cross-country flight with landings at a minimum of three points and one segment of the flight consisting of a straight-line distance of more than 25 NM between the take-off and landing locations and

(2) Three takeoffs and three landings to a full stop (with each landing involving a flight in the traffic pattern) at an aerodrome with an operating control tower.

(e) ***For a powered-lift course:*** 10 hours of solo flight training in a powered-lift on the approved areas of operation in paragraph (d)(5) of Section IV of this appendix that includes at least—

(1) Five hours of solo cross-country flight training, including one 150-NM cross-country flight with full-stop landings at a minimum of three points and one segment of the flight consisting of a straight-line distance of more than 50 NM between the take-off and landing locations and

(2) Three takeoffs and three landings to a full stop (with each landing involving a flight in the traffic pattern) at an aerodrome with an operating control tower.

(f) ***For a glider course:*** 2 hours of solo flight time, which must include at least five launches and landings, in a glider on the approved areas of operation in paragraph (d)(6) of Section IV of this appendix, and the launch and tow procedures appropriate for the approved course.

(g) ***For a lighter-than-air airship course:*** 5 hours of flight training in an airship performing the duties of PIC while under the supervision of a commercial pilot with an airship rating. The training must consist of the approved areas of operation in paragraph (d)(7) of Section IV of this appendix.

(h) ***For a lighter-than-air balloon course:*** two solo flights in a balloon with an airborne heater if the course involves a balloon with an airborne heater or, if the course involves a gas balloon, at least two solo flights in a gas balloon or at least two flights in a gas balloon performing the duties of PIC while under the supervision of a commercial pilot with a balloon rating. The training must

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consist of the approved areas of operation in paragraph (d)(8) of Section IV of this appendix, in the kind of balloon to which the course applies.

(i) ***For a powered parachute course:*** 5 hours of solo flight training in a powered parachute on the approved areas of operation in paragraph (d)(9) of Section IV of this appendix that includes at least—

(1) One solo cross-country flight with a landing at an aerodrome at least 25 NM from the departure aerodrome and

(2) Twenty solo takeoffs and landings to a full stop (with each landing involving a flight in a traffic pattern) at an aerodrome.

(j) ***For a weight-shift-control aircraft course:*** 5 hours of solo flight training in a weight-shift-control aircraft on the approved areas of operation in paragraph (d)(10) of Section IV of this appendix that includes at least—

(1) One solo 100-NM cross-country flight with landings at a minimum of three points and one segment of the flight consisting of a straight-line distance of more than 50 NM between the take-off and landing locations and

(2) Three takeoffs and three landings to a full stop (with each landing involving a flight in the traffic pattern) at an aerodrome with an operating control tower.

### **VI. Stage Checks and End-of-Course Tests.**

(a) Each student enrolled in a private pilot 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 IV of this appendix that are appropriate to the aircraft category and class rating to which the course applies.

(b) Each student must demonstrate satisfactory proficiency prior to receiving an endorsement to operate an aircraft in solo flight.



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**APPENDIX B TO GACAR PART 141 – INSTRUMENT RATING COURSE**

**I. Applicability.**

This appendix prescribes the minimum curriculum for an instrument rating course and an additional instrument rating course, required under this part, for the following ratings:

- (a) Instrument—airplane,
- (b) Instrument—helicopter, and
- (c) Instrument—powered-lift.

**II. Eligibility for Enrollment.**

Before enrolling in the flight portion of an instrument rating course a person must hold at least a private pilot certificate with an aircraft category and class rating appropriate to the instrument rating to which the course applies.

**III. Aeronautical Knowledge Training.**

(a) Each approved course must include at least the following ground training on the aeronautical knowledge areas listed in paragraph (b) of this section appropriate to the instrument rating to which the course applies:

- (1) Initial instrument rating course: 30 hours of training and
- (2) Additional instrument rating course: 20 hours of training.

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

- (1) Applicable GACAR for IFR flight operations;
- (2) Appropriate information in the KSA AIP;
- (3) ATC system and procedures for instrument flight operations;
- (4) IFR navigation and approaches by use of navigation systems;

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- (5) Use of IFR en route and instrument approach procedure charts;
- (6) Procurement and use of aviation weather reports and forecasts, and the elements of forecasting weather trends on the basis of that information and personal observation of weather conditions;
- (7) Safe and efficient operation of aircraft under IFR and conditions;
- (8) Recognition of critical weather situations and windshear avoidance;
- (9) Aeronautical decisionmaking and judgment; and
- (10) Crew resource management, to include crew communication and coordination.

### **IV. Flight Training.**

(a) Each approved course must include at least the following flight training on the approved areas of operation listed in paragraph (d) of this section, appropriate to the instrument-aircraft category and class rating to which the course applies:

- (1) Initial instrument rating course: 40 hours of instrument training and
- (2) Additional instrument rating course: 15 hours of instrument training.

(b) For the use of FSTDs—

- (1) The course may include training in an FSTD, provided it is representative of the aircraft for which the course is approved, meets the requirements of this paragraph, and the training is given by an authorized instructor.
- (2) Credit for training in an FFS that meets the requirements of GACAR § 141.65(a) cannot exceed 30 hours.
- (3) Credit for training in an FTD that meets the requirements of GACAR § 141.65(b) cannot exceed 20 hours.
- (4) Credit for training in an FSTD, if used in combination, cannot exceed 30 hours. However, credit for training in an FTD cannot exceed the limitation provided for in paragraph (b)(3) of

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this section.

(5) Credit for training in an approved ATD cannot exceed 5 hours.

(6) Credit for training in FSTDs and ATDs, if used in combination, cannot exceed 30 hours. However, credit for training in an ATD cannot exceed the limitation provided under paragraph (b)(5) of this section.

(c) Each approved course must include the following flight training:

(1) *For an instrument airplane course:* Instrument training time from a certificated flight instructor with an instrument rating on the approved areas of operation in paragraph (d) of this section including at least one cross-country flight that—

(i) Is in the category and class of airplane that the course is approved for, and is performed under IFR;

(ii) Is a distance of at least 250 NM along airways or ATC-directed routing with one segment of the flight consisting of at least a straight-line distance of 100 NM between aerodromes;

(iii) Involves an instrument approach at each aerodrome; and

(iv) Involves three different kinds of approaches with the use of navigation systems.

(2) *For an instrument helicopter course:* Instrument training time from a certificated flight instructor with an instrument rating on the approved areas of operation in paragraph (d) of this section including at least one cross-country flight that—

(i) Is in a helicopter and is performed under IFR;

(ii) Is a distance of at least 100 NM along airways or ATC-directed routing with one segment of the flight consisting of at least a straight-line distance of 50 NM between aerodromes;

(iii) Involves an instrument approach at each aerodrome; and

(iv) Involves three different kinds of approaches with the use of navigation systems.

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(3) *For an instrument powered-lift course:* Instrument training time from a certificated flight instructor with an instrument rating on the approved areas of operation in paragraph (d) of this section including at least one cross-country flight that—

- (i) Is in a powered-lift and is performed under IFR;
- (ii) Is a distance of at least 250 NM along airways or ATC-directed routing with one segment of the flight consisting of at least a straight-line distance of 100 NM between aerodromes;
- (iii) Involves an instrument approach at each aerodrome; and
- (iv) Involves three different kinds of approaches with the use of navigation systems.

(d) Each course must include flight training on the areas of operation listed under this paragraph appropriate to the instrument aircraft category and class rating (if a class rating is appropriate) to which the course applies:

- (1) Preflight preparation,
- (2) Preflight procedures,
- (3) ATC clearances and procedures,
- (4) Flight by reference to instruments,
- (5) Navigation systems,
- (6) Instrument approach procedures,
- (7) Emergency operations, and
- (8) Post-flight procedures.

(e) If instrument rating privileges are to be exercised in multi-engine aircraft, the flight training under this appendix must include training for the operation of a multi-engine aircraft of the category appropriate to the rating sought solely by reference to instruments with one engine inoperative.

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

Each student enrolled in an instrument rating 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 paragraphs (d) and (e) of Section V of this appendix that are appropriate to the aircraft category and class rating to which the course applies.

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**APPENDIX C TO GACAR PART 141 – COMMERCIAL PILOT CERTIFICATION COURSE**

**I. Applicability.**

This appendix prescribes the minimum curriculum for a commercial pilot certification course required under this part, for the following ratings:

- (a) Airplane single engine,
- (b) Airplane multiengine,
- (c) Rotorcraft helicopter,
- (d) Rotorcraft gyroplane,
- (e) Powered-lift,
- (f) Glider,
- (g) Lighter-than-air airship,
- (h) Lighter-than-air balloon,
- (i) Powered parachute, and
- (j) Weight-shift-control aircraft.

**II. Eligibility for Enrollment.**

A person must hold the following prior to enrolling in the flight portion of the commercial pilot certification course:

- (a) At least a private pilot certificate; and
- (b) If the course is for a rating in an airplane or a powered-lift category, then the person must:
  - (1) Hold an instrument rating in the aircraft that is appropriate to the aircraft category rating

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to which the course applies

(2) Be concurrently enrolled in an instrument rating course that is appropriate to the aircraft category rating to which the course applies, and pass the required instrument rating practical test prior to completing the commercial pilot certification course.

### **III. Aeronautical Knowledge Training.**

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

(1) Airplane category rating or a powered-lift category rating course: 35 hours of training;

(2) Lighter-than-air category with an airship class rating course: 65 hours of training;

(3) Rotorcraft category rating or a weight-shift-control aircraft rating course: 30 hours of training;

(4) Glider category rating or a powered parachute rating course: 20 hours of training; and

(5) Lighter-than-air category with a balloon class rating course: 20 hours of training.

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

(1) GACAR that apply to commercial pilot privileges, limitations, and flight operations;

(2) Accident reporting requirements of the AIB;

(3) Basic aerodynamics and the principles of flight;

(4) Meteorology, to include recognition of critical weather situations, windshear recognition and avoidance, and the use of aeronautical weather reports and forecasts;

(5) Safe and efficient operation of aircraft;

(6) Mass and balance computations;

(7) Use of performance charts;

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- (8) Significance and effects of exceeding aircraft performance limitations;
- (9) Use of aeronautical charts and a magnetic compass for pilotage and dead reckoning;
- (10) Use of air navigation facilities;
- (11) Aeronautical decisionmaking and judgment;
- (12) Principles and functions of aircraft systems;
- (13) Maneuvers, procedures, and emergency operations appropriate to the aircraft;
- (14) Night and high-altitude operations;
- (15) Descriptions of and procedures for operating within KSA airspace; and
- (16) Procedures for flight and ground training for lighter-than-air ratings.

### **IV. Aeronautical Experience.**

(a) ***Airplane category rating.*** A person who is applying for a commercial pilot certificate with an airplane category rating must have completed at least the following in airplanes:

- (1) PIC flight time: 60 hours and
- (2) Cross-country flight time as PIC: 15 hours.

(b) ***Rotorcraft category and helicopter class rating.*** A person who is applying for a commercial pilot certificate with a rotorcraft category and helicopter class rating must have completed at least the following in helicopters:

- (1) PIC flight time: 25 hours and
- (2) Cross-country flight time as PIC: 10 hours.

(c) ***Powered-lift category rating.*** A person who is applying for a commercial certificate with a powered-lift category rating must have completed at least the following in powered-lifts:



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- (1) PIC flight time: 40 hours and
- (2) Cross-country flight time as PIC: 5 hours.

(d) ***Lighter-than-air category and airship class rating.*** A person who is applying for a commercial certificate with a lighter-than-air category and airship class rating must have at least 50 hours total flight time and must have completed at least the following in airships:

- (1) PIC flight time or performing the duties of PIC while under the supervision of a commercial pilot with an airship rating: 20 hours and
- (2) Cross-country flight time as PIC or performing the duties of PIC while under the supervision of a commercial pilot with an airship rating: 10 hours.

### **V. Flight Training.**

(a) Each approved course must include at least the following flight training, as provided in this section and Section V of this appendix, on the approved areas of operation listed in paragraph (d) of this section that are appropriate to the aircraft category and class rating to which the course applies:

- (1) Airplane or powered-lift rating course: 120 hours of training;
- (2) Airship rating course: 150 hours of training;
- (3) Rotorcraft, powered parachute, or weight-shift-control aircraft rating course: 115 hours of training;
- (4) Glider rating course: 6 hours of training; and
- (5) Balloon rating course: 20 hours of training and 16 training flights.

(b) Each approved course must include at least the following flight training:

- (1) *For an airplane single-engine course:* 55 hours of flight training from a certificated flight instructor on the approved areas of operation listed in paragraph (d)(1) of this section that includes—

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- (i) At least 10 hours of instrument training using a view-limiting device including attitude instrument flying, partial panel skills, recovery from unusual flight attitudes, and intercepting and tracking routes and courses using navigation systems. Of the 10 hours of instrument training required, 5 hours must be in a single-engine airplane;
  - (ii) At least 10 hours of training in an airplane that has retractable landing gear, flaps, and a controllable pitch propeller, or is turbine-powered;
  - (iii) At least one 2-hour cross-country flight in daytime conditions in a single-engine airplane that consists of a total straight-line distance of more than 100 NM from the original point of departure;
  - (iv) At least one 2-hour cross-country flight in nighttime conditions in a single-engine airplane that consists of a total straight line distance of more than 100 NM from the original point of departure; and
  - (v) At least 3 hours in a single-engine airplane in preparation for the practical test within 60 days preceding the date of the test.
- (2) *For an airplane multi-engine course:* 55 hours of flight training from a certificated flight instructor on the approved areas of operation listed in paragraph (d)(2) of this section that includes—
- (i) At least 10 hours of instrument training using a view-limiting device including attitude instrument flying, partial panel skills, recovery from unusual flight attitudes, and intercepting and tracking routes and courses using navigation systems. Of the 10 hours of instrument training required, 5 hours must be in a multi-engine airplane;
  - (ii) At least 10 hours of training in a multi-engine airplane that has retractable landing gear, flaps, and a controllable pitch propeller, or is turbine-powered;
  - (iii) At least one 2-hour cross-country flight in daytime conditions in a multi-engine airplane that consists of a total straight-line distance of more than 100 NM from the original point of departure;
  - (iv) At least one 2-hour cross country flight in nighttime conditions in a multi-engine airplane that consists of a total straight-line distance of more than 100 NM from the original point of departure; and

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(v) At least 3 hours in a multi engine airplane in preparation for the practical test within 60 days preceding the date of the test.

(3) *For a rotorcraft helicopter course:* 30 hours of flight training from a certificated flight instructor on the approved areas of operation listed in paragraph (d)(3) of this section that includes—

(i) At least 10 hours on the control and maneuvering of a helicopter solely by reference to instruments, including using a view-limiting device for attitude instrument flying, partial panel skills, recovery from unusual flight attitudes, and intercepting and tracking routes and courses using navigation systems. Of the 10 hours of instrument training required, 5 hours must be in a helicopter;

(ii) At least one 2-hour cross-country flight in daytime conditions in a helicopter that consists of a total straight-line distance of more than 50 NM from the original point of departure;

(iii) At least one 2-hour cross-country flight in nighttime conditions in a helicopter that consists of a total straight-line distance of more than 50 NM from the original point of departure; and

(iv) At least 3 hours in a helicopter in preparation for the practical test within 60 days preceding the date of the test.

(4) *For a rotorcraft gyroplane course:* 30 hours of flight training from a certificated flight instructor on the approved areas of operation listed in paragraph (d)(4) of this section that includes—

(i) At least 2.5 hours on the control and maneuvering of a gyroplane solely by reference to instruments, including using a view-limiting device for attitude instrument flying, partial panel skills, recovery from unusual flight attitudes, and intercepting and tracking routes and courses using navigation systems. This aeronautical experience may be performed in an aircraft, FSTD or ATD;

(ii) At least one 2-hour cross-country flight in daytime conditions in a gyroplane that consists of a total straight-line distance of more than 50 NM from the original point of departure;

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(iii) At least 2 hours of flight training in nighttime conditions in a gyroplane at an aerodrome, that includes 10 takeoffs and 10 landings to a full stop (with each landing involving a flight in the traffic pattern); and

(iv) At least 3 hours in a gyroplane in preparation for the practical test within 60 days preceding the date of the test.

(5) *For a powered-lift course:* 55 hours of flight training from a certificated flight instructor on the approved areas of operation listed in paragraph (d)(5) of this section that includes—

(i) At least 10 hours of instrument training using a view-limiting device including attitude instrument flying, partial panel skills, recovery from unusual flight attitudes, and intercepting and tracking routes and courses using navigation systems. Of the 10 hours of instrument training required, 5 hours must be in a powered-lift;

(ii) At least one 2-hour cross-country flight in daytime conditions in a powered-lift that consists of a total straight-line distance of more than 100 NM from the original point of departure;

(iii) At least one 2-hour cross-country flight in nighttime conditions in a powered-lift that consists of a total straight-line distance of more than 100 NM from the original point of departure; and

(iv) At least 3 hours in a powered-lift in preparation for the practical test within 60 days preceding the date of the test.

(6) *For a glider course:* 4 hours of flight training from a certificated flight instructor on the approved areas of operation in paragraph (d)(6) of this section, that includes at least—

(i) Five training flights in a glider with a certificated flight instructor on the launch/tow procedures approved for the course and on the appropriate approved areas of operation listed in paragraph (d)(6) of this section and

(ii) Three training flights in a glider with a certificated flight instructor in preparation for the practical test within 60 days preceding the date of the test.

(7) *For a lighter-than-air airship course:* 55 hours of flight training in airships from a commercial pilot with an airship rating on the approved areas of operation in paragraph (d)(7)

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of this section that includes—

- (i) At least 40 hours of instrument training using a view-limiting device for attitude instrument flying, partial panel skills, recovery from unusual flight attitudes, and intercepting and tracking routes and courses using navigation systems. Of the 40 hours required of instrument training, at least 20 hours must be in flight, and at least 10 hours must be in airships;
- (ii) At least one 1 hour cross-country flight in daytime conditions in an airship that consists of a total straight-line distance of more than 25 NM from the original point of departure;
- (iii) At least one 1 hour cross-country flight in nighttime conditions in an airship that consists of a total straight-line distance of more than 25 NM from the original point of departure; and
- (iv) At least 3 hours in an airship, in preparation for the practical test within 60 days preceding the date of the test.

(8) *For a lighter-than-air balloon course:* Flight training from a commercial pilot with a balloon rating on the approved areas of operation in paragraph (d)(8) of this section that includes at least—

- (i) If the course involves training in a gas balloon—
  - (A) Two flights of 1 hour each;
  - (B) One flight involving a controlled ascent to at least 5 000 ft (1500 m) above the launch site; and
  - (C) Two flights in preparation for the practical test within 60 days preceding the date of the test.
- (ii) If the course involves training in a balloon with an airborne heater—
  - (A) Two flights of 30 minutes each;
  - (B) One flight involving a controlled ascent to at least 3 000 ft (900 m) above the

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launch site; and

(C) Two flights in preparation for the practical test within 60 days preceding the date of the test.

(9) *For a powered parachute course:* 30 hours of flight training from a certificated flight instructor with a powered parachute rating on the approved areas of operation listed in paragraph (d)(9) of this section that includes—

- (i) At least one 2-hour cross-country flight in daytime conditions in a powered parachute that consists of a total straight-line distance of more than 50 NM from the original point of departure;
- (ii) At least 2 hours of flight training in nighttime conditions in a powered parachute at an aerodrome, that includes 10 takeoffs and 10 landings (with each landing involving a flight in the traffic pattern); and
- (iii) At least 3 hours in a powered parachute in preparation for the practical test within 60 days preceding the date of the test.

(10) *For a weight-shift-control aircraft course:* 45 hours of flight training from a certificated flight instructor with a weight-shift-control aircraft rating on the approved areas of operation listed in paragraph (d)(10) of this section that includes—

- (i) At least one 2-hour cross-country flight in daytime conditions in a weight-shift-control aircraft that consists of a total straight-line distance of more than 100 NM from the original point of departure;
- (ii) At least one 2-hour cross-country flight in nighttime conditions in a weight-shift-control aircraft that consists of a total straight-line distance of more than 100 NM from the original point of departure; and
- (iii) At least 3 hours in a weight-shift-control aircraft in preparation for the practical test within 60 days preceding the date of the test.

(c) For the use of FSTDs—

(1) The course may include training in an FSTD, provided it is representative of the aircraft for

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which the course is approved, meets the requirements of this paragraph, and is given by an authorized instructor.

(2) Training in an FFS that meets the requirements of GACAR § 141.65(a) or (b) may be credited for a maximum of 10 hours toward the total flight training hour requirements of the approved course.

(d) Each approved course must include the flight training on the approved areas of operation listed in this paragraph that are appropriate to the aircraft category and class rating:

(1) For an airplane single-engine course—

- (i) Preflight preparation;
- (ii) Preflight procedures;
- (iii) Aerodrome operations;
- (iv) Takeoffs, landings, and go-arounds;
- (v) Performance maneuvers;
- (vi) Navigation;
- (vii) Slow flight and stalls;
- (viii) Emergency operations;
- (ix) High-altitude operations; and
- (x) Postflight procedures.

(2) For an airplane multi-engine course—

- (i) Preflight preparation;
- (ii) Preflight procedures;
- (iii) Aerodrome operations;

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- (iv) Takeoffs, landings, and go-arounds;
  - (v) Performance maneuvers;
  - (vi) Navigation;
  - (vii) Slow flight and stalls;
  - (viii) Emergency operations;
  - (ix) Multi-engine operations;
  - (x) High-altitude operations; and
  - (xi) Postflight procedures.
- (3) For a rotorcraft helicopter course—
- (i) Preflight preparation;
  - (ii) Preflight procedures;
  - (iii) Aerodrome operations;
  - (iv) Hovering maneuvers;
  - (v) Takeoffs, landings, and go-arounds;
  - (vi) Performance maneuvers;
  - (vii) Navigation;
  - (viii) Emergency operations;
  - (ix) Special operations; and
  - (x) Postflight procedures.



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(4) For a rotorcraft gyroplane course—

- (i) Preflight preparation;
- (ii) Preflight procedures;
- (iii) Aerodrome operations;
- (iv) Takeoffs, landings, and go-arounds;
- (v) Performance maneuvers;
- (vi) Ground reference maneuvers;
- (vii) Navigation;
- (viii) Flight at slow airspeeds;
- (ix) Emergency operations; and
- (x) Postflight procedures.

(5) For a powered-lift course—

- (i) Preflight preparation;
- (ii) Preflight procedures;
- (iii) Aerodrome operations;
- (iv) Hovering maneuvers;
- (v) Takeoffs, landings, and go-arounds;
- (vi) Performance maneuvers;
- (vii) Navigation;
- (viii) Slow flight and stalls;

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- (ix) Emergency operations;
  - (x) High altitude operations;
  - (xi) Special operations; and
  - (xii) Postflight procedures.
- (6) For a glider course—
- (i) Preflight preparation;
  - (ii) Preflight procedures;
  - (iii) Aerodrome operations;
  - (iv) Launches/tows, as appropriate, and landings;
  - (v) Performance speeds;
  - (vi) Soaring techniques;
  - (vii) Performance maneuvers;
  - (viii) Navigation;
  - (ix) Slow flight and stalls;
  - (x) Emergency operations; and
  - (xi) Postflight procedures.
- (7) For a lighter-than-air airship course—
- (i) Fundamentals of instructing;
  - (ii) Technical subjects;

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- (iii) Preflight preparation;
  - (iv) Preflight lessons on a maneuver to be performed in flight;
  - (v) Preflight procedures;
  - (vi) Aerodrome operations;
  - (vii) Takeoffs, landings, and go-arounds;
  - (viii) Performance maneuvers;
  - (ix) Navigation;
  - (x) Emergency operations; and
  - (xi) Postflight procedures.
- (8) For a lighter-than-air balloon course—
- (i) Fundamentals of instructing;
  - (ii) Technical subjects;
  - (iii) Preflight preparation;
  - (iv) Preflight lesson on a maneuver to be performed in flight;
  - (v) Preflight procedures;
  - (vi) Aerodrome operations;
  - (vii) Launches and landings;
  - (viii) Performance maneuvers;
  - (ix) Navigation;
  - (x) Emergency operations; and

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(xi) Postflight procedures.

(9) For a powered parachute course—

(i) Preflight preparation;

(ii) Preflight procedures;

(iii) Aerodrome operations;

(iv) Takeoffs, landings, and go-arounds;

(v) Performance maneuvers;

(vi) Navigation;

(vii) Emergency operations; and

(viii) Postflight procedures.

(10) For a weight-shift-control aircraft course—

(i) Preflight preparation;

(ii) Preflight procedures;

(iii) Aerodrome operations;

(iv) Takeoffs, landings, and go-arounds;

(v) Performance maneuvers;

(vi) Navigation;

(vii) Slow flight and stalls;

(viii) Emergency operations; and

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(ix) Postflight procedures.

### VI. Solo Training.

Each approved course must include at least the following solo flight training:

(a) **For an airplane single engine course:** 10 hours of solo flight time in a single-engine airplane, or 10 hours of flight time while performing the duties of PIC in a single-engine airplane with an authorized instructor onboard. The training must consist of the approved areas of operation under paragraph (d)(1) of Section V of this appendix, and—

(1) Include 5 hours solo cross-country flight training, including at least one 300-NM cross-country flight with landings at a minimum of three points, and one segment of the flight consisting of a straight-line distance of at least 250 NM; and

(2) Include 5 hours night flight under VFR with 10 takeoffs and 10 landings (with each landing involving a flight with a traffic pattern) at an aerodrome with an operating control tower.

(b) **For an airplane multi-engine course:** 10 hours of solo flight time in a multi-engine airplane, or 10 hours of flight time while performing the duties of PIC in a multi-engine airplane with an authorized instructor onboard. The training must consist of the approved areas of operation under paragraph (d)(2) of Section V of this appendix, and—

(1) Include 5 hours solo cross-country flight training, or 5 hours cross-country flight training while performing the duties of PIC with an authorized instructor onboard, including at least one 300-NM cross-country flight with landings at a minimum of three points and one segment of the flight consisting of straight-line distance of at least 250 NM and

(2) Include 5 hours night flight under VFR with 10 takeoffs and 10 landings (with each landing involving a flight with a traffic pattern) at an aerodrome with an operating control tower.

(c) **For a rotorcraft helicopter course:** 10 hours of solo flight time in a helicopter, or 10 hours of flight time while performing the duties of PIC in a helicopter with an authorized instructor onboard. The training must consist of the approved areas of operation under paragraph (d)(3) of Section V of this appendix, and—

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(1) Include one cross-country flight with landings at a minimum of three points and one segment of the flight consisting of a straight-line distance of at least 50 NM from the original point of departure and

(2) Include 5 hours night flight under VFR with 10 takeoffs and 10 landings (with each landing involving a flight with a traffic pattern) at an aerodrome with an operating control tower.

(d) **For a rotorcraft gyroplane course:** 10 hours of solo flight time in a gyroplane, or 10 hours of flight time while performing the duties of PIC in a gyroplane with an authorized instructor onboard. The training must consist of the approved areas of operation under paragraph (d)(4) of Section V of this appendix, and—

(1) Include one cross-country flight with landings at a minimum of three points, and one segment of the flight consisting of a straight-line distance of at least 50 NM from the original point of departure; and

(2) Include 5 hours night flight under VFR with 10 takeoffs and 10 landings (with each landing involving a flight with a traffic pattern) at an aerodrome with an operating control tower.

(e) **For a powered-lift course:** 10 hours of solo flight time in a powered-lift, or 10 hours of flight time while performing the duties of PIC in a powered-lift with an authorized instructor onboard. The training must consist of the approved areas of operation under paragraph (d)(5) of Section V of this appendix, and—

(1) Include 5 hours solo cross-country flight training, or 5 hours cross-country flight training while performing the duties of PIC with an authorized instructor onboard, including at least one 300-NM cross-country flight with landings at a minimum of three points, and one segment of the flight consisting of a straight-line distance of at least 250 NM and

(2) Include 5 hours night flight under VFR with 10 takeoffs and 10 landings (with each landing involving a flight with a traffic pattern) at an aerodrome with an operating control tower.

(f) **For a glider course:** Five solo flights in a glider on the approved areas of operation in paragraph (d)(6) of Section V of this appendix.

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(g) ***For a lighter-than-air airship course:*** 10 hours of flight training in an airship performing the duties of PIC while under the supervision of a commercial pilot with an airship rating. The training must consist of the approved areas of operation in paragraph (d)(7) of Section V of this appendix and include—

- (1) At least one 1 hour cross-country flight with landings at a minimum of three points, and one segment of the flight consisting of a straight-line distance of at least 25 NM from the original point of departure and
- (2) At least 10 hours night flight under VFR with 10 takeoffs and 10 landings (with each landing involving a flight with a traffic pattern).

(h) ***For a lighter-than-air balloon course:*** Two solo flights if the course is for a hot air balloon rating, or, if the course is for a gas balloon rating, at least two flights in a gas balloon, while performing the duties of PIC under the supervision of a commercial pilot with a balloon rating. The training must consist of the approved areas of operation in paragraph (d)(8) of Section V of this appendix, in the kind of balloon to which the course applies.

(i) ***For a powered parachute course:*** 10 hours of solo flight time in a powered parachute, or 10 hours of flight time while performing the duties of PIC in a powered parachute with an authorized instructor onboard. The training must consist of the approved areas of operation in paragraph (d)(9) of Section V of this appendix and include—

- (1) At least one cross-country flight with landings at a minimum of three points, and one segment of the flight consisting of a straight-line distance of at least 25 NM from the original point of departure and
- (2) At least 5 hours night flight under VFR with 10 takeoffs and 10 landings (with each landing involving a flight with a traffic pattern).

(j) ***For a weight-shift-control aircraft course:*** 10 hours of solo flight time in a weight-shift-control aircraft, or 10 hours of flight time while performing the duties of PIC in a weight-shift-control aircraft with an authorized instructor onboard. The training must consist of the approved areas of operation in paragraph (d)(10) of Section V of this appendix and include—

- (1) At least one cross-country flight with landings at a minimum of three points, and one segment of the flight consisting of a straight-line distance of at least 250 NM and

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(2) At least 5 hours night flight under VFR with 10 takeoffs and 10 landings (with each landing involving a flight with a traffic pattern).

### **VII. Stage Checks and End-of-Course Tests.**

(a) Each student enrolled in a commercial pilot 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 rating to which the course applies.

(b) Each student must demonstrate satisfactory proficiency prior to receiving an endorsement to operate an aircraft in solo flight.



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**APPENDIX D TO GACAR PART 141 – AIRLINE TRANSPORT PILOT  
CERTIFICATION COURSE**

**I. Applicability.**

This appendix prescribes the minimum curriculum for an airline transport pilot certification course under this part, for the following ratings:

- (a) Airplane single-engine.
- (b) Airplane multiengine.
- (c) Rotorcraft helicopter.
- (d) Powered-lift.

**II. Eligibility for enrollment.**

Before completing the flight portion of the airline transport pilot certification course, a person must meet the aeronautical experience requirements for an airline transport pilot certificate under part 61, subpart G of this chapter that is appropriate to the aircraft category and class rating for which the course applies, and:

- (a) Hold a commercial pilot certificate and an instrument rating, or an airline transport pilot certificate with instrument privileges;
- (b) Meet the Armed Forces experience requirements under §61.93 to qualify for a commercial pilot certificate and an instrument rating, if the person is a rated Armed Force pilot or former rated Armed Force pilot; or
- (c) Hold either a foreign airline transport pilot license or foreign commercial pilot license and an instrument rating, if the person holds a pilot license issued by a contracting State to the

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Convention on International Civil Aviation.

### III. Aeronautical knowledge areas.

(a) Each approved course must include at least 40 hours of ground training on the aeronautical knowledge areas listed in paragraph (b) of this section, appropriate to the aircraft category and class rating for which the course applies.

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

(1) Applicable GACAR of this chapter that relate to airline transport pilot privileges, limitations, and flight operations;

(2) Meteorology, including knowledge of and effects of fronts, frontal characteristics, cloud formations, icing, and upper-air data;

(3) General system of weather and NOTAM collection, dissemination, interpretation, and use;

(4) Interpretation and use of weather charts, maps, forecasts, sequence reports, abbreviations, and symbols;

(5) Meteorological service provider functions as they pertain to operations in KSA airspace;

(6) Windshear and microburst awareness, identification, and avoidance;

(7) Principles of air navigation under instrument meteorological conditions in the National Airspace System;

(8) Air traffic control procedures and pilot responsibilities as they relate to en route operations, terminal area and radar operations, and instrument departure and approach procedures;

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- (9) Aircraft loading; weight and balance; use of charts, graphs, tables, formulas, and computations; and the effects on aircraft performance;
- (10) Aerodynamics relating to an aircraft's flight characteristics and performance in normal and abnormal flight regimes;
- (11) Human factors;
- (12) Aeronautical decision making and judgment; and
- (13) Crew resource management to include crew communication and coordination.

### **IV. Flight training.**

- (a) Each approved course must include at least 25 hours of flight training on the approved areas of operation listed in paragraph (III) of this section appropriate to the aircraft category and class rating for which the course applies. At least 15 hours of this flight training must be instrument flight training.
- (b) For the use of full flight simulators or flight training devices—
  - (1) The course may include training in a full flight simulator or flight training device, provided it is representative of the aircraft for which the course is approved, meets the requirements of this paragraph, and the training is given by an authorized instructor.
  - (2) Training in a full flight simulator that meets the requirements of §141.65(a) may be credited for a maximum of 50 percent of the total flight training hour requirements of the approved course, or of this section, whichever is less.
  - (3) Training in a flight training device that meets the requirements of §141.65(b) may be credited for a maximum of 25 percent of the total flight training hour requirements of the approved course, or of this section, whichever is less.

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(4) Training in full flight simulators or flight training devices described in paragraphs (b)(2) and (3) of this section, if used in combination, may be credited for a maximum of 50 percent of the total flight training hour requirements of the approved course, or of this section, whichever is less. However, credit for training in a flight training device that meets the requirements of §141.65(b) cannot exceed the limitation provided for in paragraph (b)(3) of this section.

(c) Each approved course must include flight training on the approved areas of operation listed in this paragraph appropriate to the aircraft category and class rating for which the course applies:

- (1) Preflight preparation;
- (2) Preflight procedures;
- (3) Takeoff and departure phase;
- (4) In-flight maneuvers;
- (5) Instrument procedures;
- (6) Landings and approaches to landings;
- (7) Normal and abnormal procedures;
- (8) Emergency procedures; and
- (9) Post-flight procedures.

### **V. Stage checks and end-of-course tests.**

(a) Each student enrolled in an airline transport pilot course must satisfactorily accomplish the stage checks and end-of-course tests, in accordance with the school's approved training course,

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consisting of the approved areas of operation listed in paragraph (c) of section No. 4 of this appendix that are appropriate to the aircraft category and class rating for which the course applies.

(b) Each student must demonstrate satisfactory proficiency prior to receiving an endorsement to operate an aircraft in solo flight.

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**APPENDIX E TO GACAR PART 141 – FLIGHT INSTRUCTOR CERTIFICATION COURSE**

**I. Applicability.**

This appendix prescribes the minimum curriculum for a flight instructor certification course and an additional flight instructor rating course required under this part, for the following ratings:

- (a) Airplane single engine,
- (b) Airplane multiengine,
- (c) Rotorcraft helicopter,
- (d) Rotorcraft gyroplane,
- (e) Powered-lift, and
- (f) Glider category.

**II. Eligibility for Enrollment.**

A person must hold the following prior to enrolling in the flight portion of the flight instructor or additional flight instructor rating course:

- (a) A commercial pilot certificate or an ATP certificate, with an aircraft category and class rating appropriate to the flight instructor rating to which the course applies and
- (b) An instrument rating or privilege in an aircraft that is appropriate to the aircraft category and class rating to which the course applies, if the course is for a flight instructor airplane or powered-lift instrument rating.

**III. Aeronautical Knowledge Training.**

(a) Each approved course must include at least the following ground training in the aeronautical knowledge areas listed in paragraph (b) of this section:

- (1) Initial issuance of a flight instructor certificate course: 40 hours of training; or

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(2) Additional flight instructor rating course: 20 hours of training.

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

(1) The fundamentals of instructing including—

- (i) The learning process,
- (ii) Elements of effective teaching,
- (iii) Student evaluation and testing,
- (iv) Course development,
- (v) Lesson planning, and
- (vi) Classroom training techniques.

(2) The aeronautical knowledge areas in which training is required for—

- (i) A private and commercial pilot certificate that is appropriate to the aircraft category and class rating to which the course applies and
- (ii) An instrument rating that is appropriate to the aircraft category and class rating to which the course applies, if the course is for an airplane or powered-lift rating.

(c) A student who satisfactorily completes 2 years of study on the principles of education at a college or university may be credited with no more than 20 hours of the training required in paragraph (a)(1) of this section.

### **IV. Flight Training.**

(a) Each approved course must include at least the following flight training on the approved areas of operation under paragraph (c) of this section appropriate to the flight instructor rating to which the course applies:

- (1) Airplane, rotorcraft, or powered-lift rating course: 25 hours and
- (2) Glider category rating course: 10 hours, which must include 10 flights.

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(b) For the use of FTDs—

(1) The course may include training in an FSTD, provided it is representative of the aircraft for which the course is approved, meets the requirements of this paragraph, and the training is given by an authorized instructor.

(2) Training in an FFS that meets the requirements of GACAR § 141.65(a), may be credited for a maximum of 10 percent of the total flight training hour requirements of the approved course, or of this section, whichever is less.

(3) Training in an FTD that meets the requirements of GACAR § 141.65(b), may be credited for a maximum of 5 percent of the total flight training hour requirements of the approved course, or of this section, whichever is less.

(4) Training in FSTDs described in paragraphs (b)(2) and (3) of this section, if used in combination, may be credited for a maximum of 10 percent of the total flight training hour requirements of the approved course, or of this section, whichever is less. However, credit for training in an FTD that meets the requirements of GACAR § 141.65(b) cannot exceed the limitation provided for in paragraph (b)(3) of this section.

(c) Each approved course must include flight training on the approved areas of operation listed in this paragraph that are appropriate to the aircraft category and class rating to which the course applies—

(1) For an airplane single-engine course—

- (i) Fundamentals of instructing;
- (ii) Technical subject areas;
- (iii) Preflight preparation;
- (iv) Preflight lesson on a maneuver to be performed in flight;
- (v) Preflight procedures;
- (vi) Aerodrome operations;



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- (vii) Takeoffs, landings, and go-arounds;
  - (viii) Fundamentals of flight;
  - (ix) Performance maneuvers;
  - (x) Ground reference maneuvers;
  - (xi) Slow flight, stalls, and spins;
  - (xii) Basic instrument maneuvers;
  - (xiii) Emergency operations; and
  - (xiv) Postflight procedures.
- (2) For an airplane multi-engine course—
- (i) Fundamentals of instructing;
  - (ii) Technical subject areas;
  - (iii) Preflight preparation;
  - (iv) Preflight lesson on a maneuver to be performed in flight;
  - (v) Preflight procedures;
  - (vi) Aerodrome operations;
  - (vii) Takeoffs, landings, and go-arounds;
  - (viii) Fundamentals of flight;
  - (ix) Performance maneuvers;
  - (x) Ground reference maneuvers;
  - (xi) Slow flight and stalls;

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- (xii) Basic instrument maneuvers;
  - (xiii) Emergency operations;
  - (xiv) Multi-engine operations; and
  - (xv) Postflight procedures.
- (3) For a rotorcraft helicopter course—
- (i) Fundamentals of instructing;
  - (ii) Technical subject areas;
  - (iii) Preflight preparation;
  - (iv) Preflight lesson on a maneuver to be performed in flight;
  - (v) Preflight procedures;
  - (vi) Aerodrome operations;
  - (vii) Hovering maneuvers;
  - (viii) Takeoffs, landings, and go-arounds;
  - (ix) Fundamentals of flight;
  - (x) Performance maneuvers;
  - (xi) Emergency operations;
  - (xii) Special operations; and
  - (xiii) Postflight procedures.
- (4) For a rotorcraft gyroplane course—

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- (i) Fundamentals of instructing;
  - (ii) Technical subject areas;
  - (iii) Preflight preparation;
  - (iv) Preflight lesson on a maneuver to be performed in flight;
  - (v) Preflight procedures;
  - (vi) Aerodrome operations;
  - (vii) Takeoffs, landings, and go-arounds;
  - (viii) Fundamentals of flight;
  - (ix) Performance maneuvers;
  - (x) Flight at slow airspeeds;
  - (xi) Ground reference maneuvers;
  - (xii) Emergency operations; and
  - (xiii) Postflight procedures.
- (5) For a powered-lift course—
- (i) Fundamentals of instructing;
  - (ii) Technical subject areas;
  - (iii) Preflight preparation;
  - (iv) Preflight lesson on a maneuver to be performed in flight;
  - (v) Preflight procedures;
  - (vi) Aerodrome operations;

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- (vii) Hovering maneuvers;
  - (viii) Takeoffs, landings, and go-arounds;
  - (ix) Fundamentals of flight;
  - (x) Performance maneuvers;
  - (xi) Ground reference maneuvers;
  - (xii) Slow flight and stalls;
  - (xiii) Basic instrument maneuvers;
  - (xiv) Emergency operations;
  - (xv) Special operations; and
  - (xvi) Postflight procedures.
- (6) For a glider course—
- (i) Fundamentals of instructing;
  - (ii) Technical subject areas;
  - (iii) Preflight preparation;
  - (iv) Preflight lesson on a maneuver to be performed in flight;
  - (v) Preflight procedures;
  - (vi) Aerodrome operations;
  - (vii) Tows or launches, landings, and go-arounds, if applicable;
  - (viii) Fundamentals of flight;

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- (ix) Performance speeds;
- (x) Soaring techniques;
- (xi) Performance maneuvers;
- (xii) Slow flight, stalls, and spins;
- (xiii) Emergency operations; and
- (xiv) Postflight procedures.

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

(a) Each student enrolled in a flight instructor course must satisfactorily accomplish the stage checks and end-of-course tests, in accordance with the school's approved training course, consisting of the appropriate approved areas of operation listed in paragraph (c) of Section IV of this appendix appropriate to the flight instructor rating to which the course applies.

(b) In the case of a student who is enrolled in a flight instructor-airplane rating or flight instructor-glider rating course, that student must have—

(1) Received a logbook endorsement from a certificated flight instructor certifying the student received ground and flight training on stall awareness, spin entry, spins, and spin recovery procedures in an aircraft that is certificated for spins and is appropriate to the rating sought and

(2) Demonstrated instructional proficiency in stall awareness, spin entry, spins, and spin recovery procedures.

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**APPENDIX F TO GACAR PART 141 – FLIGHT INSTRUCTOR INSTRUMENT  
(FOR AN AIRPLANE, HELICOPTER, OR POWERED-LIFT INSTRUMENT  
INSTRUCTOR RATING, AS APPROPRIATE) CERTIFICATION COURSE**

**I. Applicability.**

This appendix prescribes the minimum curriculum for a flight instructor instrument certification course required under this part, for the following ratings:

- (a) Flight Instructor Instrument—Airplane;
- (b) Flight Instructor Instrument—Helicopter; and
- (c) Flight Instructor Instrument—Powered-lift.

**II. Eligibility for Enrollment.**

A person must hold the following prior to enrolling in the flight portion of the flight instructor instrument course:

- (a) A commercial pilot certificate or ATP certificate with an aircraft category and class rating appropriate to the flight instructor category and class rating to which the course applies and
- (b) An instrument rating or privilege on that flight instructor applicant's pilot certificate that is appropriate to the flight instructor instrument rating (for an airplane, helicopter, or powered-lift instrument rating, as appropriate) to which the course applies.

**III. Aeronautical Knowledge Training.**

- (a) Each approved course must include at least 15 hours of ground training on the aeronautical knowledge areas listed in paragraph (b) of this section, appropriate to the flight instructor instrument rating (for an airplane, helicopter, or powered-lift instrument rating, as appropriate) to which the course applies:
- (b) Ground training must include the following aeronautical knowledge areas:
  - (1) The fundamentals of instructing including—

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- (i) The learning process,
- (ii) Elements of effective teaching,
- (iii) Student evaluation and testing,
- (iv) Course development,
- (v) Lesson planning, and
- (vi) Classroom training techniques.

(2) The aeronautical knowledge areas in which training is required for an instrument rating that is appropriate to the aircraft category and class rating to which the course applies.

### **IV. Flight Training.**

(a) Each approved course must include at least 15 hours of flight training in the approved areas of operation under paragraph (c) of this section appropriate to the flight instructor rating to which the course applies.

(b) For the use of FSTDs—

(1) The course may include training in an FSTD, provided it is representative of the aircraft for which the course is approved, meets requirements of this paragraph, and the training is given by an instructor.

(2) Training in an FFS that meets the requirements of GACAR § 141.65(a), may be credited for a maximum of 10 percent of the total flight training hour requirements of the approved course, or of this section, whichever is less.

(3) Training in an FTD that meets the requirements of GACAR § 141.65(b), may be credited for a maximum of 5 percent of the total flight training hour requirements of the approved course, or of this section, whichever is less.

(4) Training in FSTDs described in paragraphs (b)(2) and (3) of this section, if used in combination, may be credited for a maximum of 10 percent of the total flight training hour requirements of the approved course, or of this section, whichever is less. However, credit for

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training in an FTD that meets the requirements of GACAR § 141.65(b) cannot exceed the limitation provided for in paragraph (b)(3) of this section.

(c) An approved course for the flight instructor-instrument rating must include flight training on the following approved areas of operation that are appropriate to the instrument-aircraft category and class rating to which the course applies:

- (1) Fundamentals of instructing,
- (2) Technical subject areas,
- (3) Preflight preparation,
- (4) Preflight lesson on a maneuver to be performed in flight,
- (5) ATC clearances and procedures,
- (6) Flight by reference to instruments,
- (7) Navigation systems,
- (8) Instrument approach procedures,
- (9) Emergency operations, and
- (10) Postflight procedures.

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

Each student enrolled in a flight instructor instrument 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 (c) of Section IV of this appendix that are appropriate to the flight instructor instrument rating (for an airplane, helicopter, or powered-lift instrument rating, as appropriate) to which the course applies.



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**APPENDIX G TO GACAR PART 141 – GROUND INSTRUCTOR CERTIFICATION COURSE**

**I. Applicability.**

This appendix prescribes the minimum curriculum for a ground instructor certification course and an additional ground instructor rating course, required under this part, for the following ratings:

- (a) Ground Instructor—Basic,
- (b) Ground Instructor—Advanced, and
- (c) Ground Instructor—Instrument.

**II. Aeronautical Knowledge Training.**

(a) Each approved course must include at least the following ground training on the knowledge areas listed in paragraphs (b), (c), (d), and (e) of this section, appropriate to the ground instructor rating to which the course applies:

- (1) Initial issuance of a ground instructor certificate course: 20 hours of training or
- (2) Additional ground instructor rating course: 10 hours of training.

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

- (1) Learning process,
- (2) Elements of effective teaching,
- (3) Student evaluation and testing,
- (4) Course development,
- (5) Lesson planning, and
- (6) Classroom training techniques.

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- (c) Ground training for a basic ground instructor certificate must include the aeronautical knowledge areas applicable to a private pilot.
- (d) Ground training for an advanced ground instructor rating must include the aeronautical knowledge areas applicable to a private, commercial, and ATP.
- (e) Ground training for an instrument ground instructor rating must include the aeronautical knowledge areas applicable to an instrument rating.
- (f) A student who satisfactorily completed 2 years of study on the principles of education at a college or university may be credited with 10 hours of the training required in paragraph (a)(1) of this section.

### **III. Stage Checks and End-of-Course Tests.**

Each student enrolled in a ground instructor 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 knowledge areas in paragraphs (b), (c), (d), and (e) of Section II of this appendix appropriate to the ground instructor rating to which the course applies.

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**APPENDIX H TO GACAR PART 141 – ADDITIONAL AIRCRAFT CATEGORY  
AND/OR CLASS RATING COURSE**

**I. Applicability.**

This appendix prescribes the minimum curriculum for an additional aircraft category rating course or an additional aircraft class rating course required under this part, for the following ratings:

- (a) Airplane single engine,
- (b) Airplane multiengine,
- (c) Rotorcraft helicopter,
- (d) Rotorcraft gyroplane,
- (e) Powered-lift,
- (f) Glider,
- (g) Lighter-than-air airship,
- (h) Lighter-than-air balloon,
- (i) Powered parachute, and
- (j) Weight-shift-control aircraft.

**II. Eligibility for Enrollment.**

A person must hold the level of pilot certificate for the additional aircraft category and class rating to which the course applies prior to enrolling in the flight portion of an additional aircraft category or additional aircraft class rating course.

**III. Aeronautical Knowledge Training.**

- (a) For a private pilot certificate, the following aeronautical knowledge areas must be included in a 10-hour ground training course for an additional class rating or a 15-hour ground training course

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for an additional aircraft category and class rating:

- (1) Applicable regulations issued by the GACA for private pilot privileges, limitations, and KSA airspace flight operations;
- (2) Safe and efficient operation of aircraft, including collision avoidance, and recognition and avoidance of wake turbulence;
- (3) Effects of density altitude on take-off and climb performance;
- (4) Mass and balance computations;
- (5) Principles of aerodynamics, powerplants, and aircraft systems;
- (6) Stall awareness, spin entry, spins, and spin recovery techniques if applying for an airplane, powered-lift, glider, or weight-shift-control aircraft category or class rating; and
- (7) Preflight action that includes how to obtain information on runway lengths at aerodromes of intended use, data on take-off and landing distances, weather reports and forecasts, and fuel requirements.

(b) For a commercial pilot certificate, the following aeronautical knowledge areas must be included in a 15-hour ground training course for an additional class rating or a 20-hour ground training course for an additional aircraft category and class rating:

- (1) Applicable regulations issued by the GACA for commercial pilot privileges, limitations, and flight operations;
- (2) Basic aerodynamics and the principles of flight;
- (3) Safe and efficient operation of aircraft;
- (4) Mass and balance computations;
- (5) Use of performance charts;
- (6) Significance and effects of exceeding aircraft performance limitations;

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- (7) Principles and functions of aircraft systems;
- (8) Maneuvers, procedures, and emergency operations appropriate to the aircraft;
- (9) Nighttime and high-altitude operations; and
- (10) Procedures for flight and ground training for lighter-than-air ratings.

(c) For an ATP certificate, the following aeronautical knowledge areas must be included in a 25-hour ground training course for an additional aircraft category and/or class rating:

- (1) Applicable regulations issued by the GACA for ATP privileges, limitations, and flight operations;
- (2) Meteorology, including knowledge and effects of fronts, frontal characteristics, cloud formations, icing, and upper-air data;
- (3) General system of weather and NOTAM collection, dissemination, interpretation, and use;
- (4) Interpretation and use of weather charts, maps, forecasts, sequence reports, abbreviations, and symbols;
- (5) Meteorological service provider functions as it pertains to operations in KSA airspace;
- (6) Windshear and microburst awareness, identification, and avoidance;
- (7) Principles of air navigation under IMC in KSA airspace;
- (8) ATC procedures and pilot responsibilities as they relate to en-route operations, terminal area and radar operations, and instrument departure and approach procedures;
- (9) Aircraft loading; mass and balance; use of charts, graphs, tables, formulas, and computations; and the effects on aircraft performance;
- (10) Aerodynamics relating to an aircraft's flight characteristics and performance in normal and abnormal flight regimes;
- (11) Human factors;

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(12) Aeronautical decisionmaking and judgment; and

(13) Crew resource management to include crew communication and coordination.

### **IV. Flight Training.**

(a) Course for an additional airplane category and single engine class rating.

(1) For the private pilot certificate, the course must include 20 hours of flight training on the areas of operations under paragraph IV(d)(1) of Appendix A to this part. An FSTD cannot be used to meet more than 4 hours of the training requirements, and the use of the FTD is limited to 3 hours of the 4 hours permitted. The course must—

(i) Include 3 hours of cross-country training in a single engine airplane;

(ii) Include 3 hours of nighttime flight training in a single-engine airplane that includes one cross-country flight of more than 100 NM total distance, and 10 takeoffs and 10 landings to a full stop (with each landing involving a flight in the traffic pattern) at an aerodrome;

(iii) Include 3 hours of flight training in a single-engine airplane on the control and maneuvering of the airplane solely by reference to instruments, including straight and level flight, constant airspeed climbs and descents, turns to a heading, recovery from unusual flight attitudes, radio communications, and the use of navigation systems/facilities and radar services appropriate to instrument flight;

(iv) If the person does not hold a private pilot certificate with an airplane or powered-lift category rating, include 10 hours of solo flight training in a single-engine airplane, including 5 hours of cross-country flight training, with at least one 150-NM cross country flight with full-stop landings at a minimum of three points and one segment of the flight consisting of a straight-line distance of more than 50 NM between the take-off and landing locations; and

(v) Include 3 hours of flight training in a single-engine airplane within 2 months before the date of the practical test.

(2) For the commercial pilot certificate, the course must include 55 hours of flight training on the areas of operations under paragraph V(d)(1) of Appendix C to this part. An FSTD cannot

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be used to meet more than 16.5 hours of the training requirements, and the use of the FTD is limited to 11 hours of the 16.5 hours permitted. The course must—

- (i) Include 5 hours of instrument training in a single-engine airplane that includes training using a view-limiting device on attitude instrument flying, partial panel skills, recovery from unusual flight attitudes, and intercepting and tracking routes and courses using navigation systems;
  - (ii) Include 5 hours of training in an airplane that has retractable landing gear, flaps, and a controllable pitch propeller, or is turbine-powered;
  - (iii) Include—
    - (A) If the person does not hold a commercial pilot certificate with an airplane or powered-lift category rating, 5 hours solo cross-country flight training, including at least one 300-NM cross-country flight with landings at a minimum of three points, and one segment of the flight consisting of a straight-line distance of at least 250 NM; or
    - (B) If the person holds a commercial pilot certificate with an airplane or powered-lift category rating, one 2-hour cross-country flight during daytime conditions in a single-engine airplane, a total straight-line distance of more than 100 NM from the original point of departure;
  - (iv) Include one 2-hour cross-country flight during nighttime conditions in a single-engine airplane, a total straight-line distance of more than 100 NM from the original point of departure; and
  - (v) Include 3 hours in a single-engine airplane within 2 months before the date of the practical test.
- (3) For the ATP certificate, the course must include 25 hours flight training, including 15 hours of instrument training, in a single-engine airplane on the areas of operation under, paragraph V(c) of Appendix D to this part. An FSTD cannot be used to meet more than 12.5 hours of the training requirements; and the use of the FTD is limited to 6.25 hours of the 12.5 hours permitted.

**(b) *Course for an additional airplane category and multi-engine class rating.***

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(1) For the private pilot certificate, the course requires 20 hours flight training on the areas of operations under paragraph IV(d)(2) of Appendix A to this part. An FSTD cannot be used more than 4 hours to meet the training requirements, and use of the FTD is limited to 3 hours of the 4 hours permitted. The course must—

(i) Include 3 hours of cross-country training in a multi-engine airplane;

(ii) Include 3 hours of nighttime flight training in a multi-engine airplane that includes one cross-country flight of more than 100 NM total distance, and 10 takeoffs and 10 landings to a full stop (with each landing involving a flight in the traffic pattern) at an aerodrome;

(iii) Include 3 hours of flight training in a multi-engine airplane on the control and maneuvering of a multi-engine airplane solely by reference to instruments, including straight and level flight, constant airspeed climbs and descents, turns to a heading, recovery from unusual flight attitudes, radio communications, and the use of navigation systems/facilities and radar services appropriate to instrument flight;

(iv) If the person does not hold a private pilot certificate with an airplane or powered-lift category rating, include 10 hours of flight training in a multi-engine airplane performing the duties of a PIC while under the supervision of a certificated flight instructor, including 5 hours of cross-country flight training, with at least one 150 NM cross-country flight with full-stop landings at a minimum of three points and one segment of the flight consisting of a straight-line distance of more than 50 NM between the take-off and landing locations; and

(v) Include 3 hours of flight training in a multi-engine airplane in preparation for the practical test within 2 months before the date of the test.

(2) For the commercial pilot certificate, the course requires 55 hours flight training on the areas of operations under paragraph V(d)(2) of Appendix C to this part. An FSTD cannot be used more than 16.5 hours to meet the training requirements, and use of the FTD is limited to 11 hours of the 16.5 hours permitted. The course must—

(i) Include 5 hours of instrument training in a multi-engine airplane including training using a view-limiting device for attitude instrument flying, partial panel skills, recovery from unusual flight attitudes, and intercepting and tracking routes and courses using



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navigation systems;

(ii) Include 10 hours of training in a multi-engine airplane that has retractable landing gear, flaps, and a controllable pitch propeller, or is turbine-powered;

(iii) Include—

(A) If the person does not hold a commercial pilot certificate with an airplane or powered lift category rating, 5 hours solo cross-country flight training or 5 hours cross-country flight training in a multi-engine airplane performing the duties of a PIC while under the supervision of a certificated flight instructor, including at least one 300-NM cross-country flight with landings at a minimum of three points, and one segment of the flight consisting of a straight-line distance of at least 250 NM; or

(B) If the person holds a commercial pilot certificate with an airplane or powered-lift category rating, one 2 hour cross-country flight during daytime conditions in a multi-engine airplane, and a total straight-line distance of more than 100 NM from the original point of departure;

(iv) Include one 2-hour cross-country flight during nighttime conditions in a multi-engine airplane, and a total straight-line distance of more than 100 NM from the original point of departure; and

(v) Include 3 hours in a multi-engine airplane within 2 months before the date of the practical test.

(3) For the ATP certificate, the course requires 25 hours of flight training in a multi-engine airplane on the areas of operation under paragraph V(c) of Appendix D to this part that includes 15 hours of instrument training. An FSTD cannot be used more than 12.5 hours to meet the training requirements, and use of the FTD is limited to 6.25 hours of the 12.5 hours permitted.

**(c) *Course for an additional rotorcraft category and helicopter class rating.***

(1) For the private pilot certificate, the course requires 20 hours flight training on the areas of operations under paragraph IV(d)(3) of Appendix A to this part. An FSTD cannot be used more than 4 hours to meet the training requirements, and use of the FTD is limited to 3 hours of the 4 hours permitted. The course must—

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- (i) Include 3 hours of cross-country flight training in a helicopter;
  - (ii) Include 3 hours of nighttime flight training in a helicopter that includes one cross-country flight of more than 50 NM total distance, and 10 takeoffs and 10 landings to a full stop (with each landing involving a flight in the traffic pattern) at an aerodrome;
  - (iii) Include 10 hours of solo flight training in a helicopter, including 5 hours of cross-country flight training, with at least one 100-NM cross-country flight with full-stop landings at a minimum of three points and one segment of the flight consisting of a straight-line distance of more than 25 NM between the take-off and landing locations; and
  - (iv) Include 3 hours of flight training in a helicopter within 2 months before the date of the practical test.
- (2) The commercial pilot certificate level requires 30 hours of flight training on the areas of operations under paragraph V(d)(3) of Appendix C to this part. An FSTD cannot be used more than 9 hours to meet the training requirements, and use of the FTD is limited to 6 hours of the 9 hours permitted. The course must—
- (i) Include 5 hours on the control and maneuvering of a helicopter solely by reference to instruments, and must include training using a view-limiting device for attitude instrument flying, partial panel skills, recovery from unusual flight attitudes, and intercepting and tracking routes and courses using navigation systems. This aeronautical experience may be performed in an aircraft, FSTD, or ATD;
  - (ii) Include one 2 hour cross-country flight during daytime conditions in a helicopter, a total straight-line distance of more than 50 NM from the original point of departure;
  - (iii) Include one 2 hour cross-country flight during nighttime conditions in a helicopter, a total straight-line distance of more than 50 NM from the original point of departure; and
  - (iv) Include 3 hours in a helicopter within 2 months before the date of the practical test.
- (3) For the ATP certificate, the course requires 25 hours of flight training, including 15 hours of instrument training, in a helicopter on the areas of operation under paragraph V(c) of Appendix D to this part. An FSTD cannot be used more than 12.5 hours to meet the training

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requirements, and use of the FTD is limited to 6.25 hours of the 12.5 hours permitted.

**(d) *Course for an additional rotorcraft category and a gyroplane class rating.***

(1) For the private pilot certificate, the course requires 20 hours of flight training on the areas of operations under paragraph IV(d)(4) of Appendix A to this part. An FSTD cannot be used more than 4 hours to meet the training requirements, and use of the FTD is limited to 3 hours of the 4 hours permitted. The course must—

(i) Include 3 hours of cross-country flight training in a gyroplane;

(ii) Include 3 hours of nighttime flight training in a gyroplane that includes one cross-country flight of more than 50 NM total distance, and 10 takeoffs and 10 landings to a full stop (with each landing involving a flight in the traffic pattern) at an aerodrome; and

(iii) Include 3 hours of flight training in a gyroplane within 2 months before the date of the practical test.

(2) For the commercial pilot certificate, the course requires 30 hours flight training on the areas of operations under paragraph V(d)(4) of Appendix C to this part. An FSTD cannot be used more than 6 hours to meet the training requirements, and use of the FTD is limited to 6 hours of the 9 hours permitted. The course must—

(i) Include 2.5 hours on the control and maneuvering of a gyroplane solely by reference to instruments, and must include training using a view-limiting device for attitude instrument flying, partial panel skills, recovery from unusual flight attitudes, and intercepting and tracking routes and courses using navigation systems. This aeronautical experience may be performed in an aircraft, FSTD, or ATD.

(ii) Include one 2 hour cross-country flight during daytime conditions in a gyroplane, a total straight line distance of more than 50 NM from the original point of departure;

(iii) Include 2 hours of flight training during nighttime conditions in a gyroplane at an aerodrome, that includes 10 takeoffs and 10 landings to a full stop (with each landing involving a flight in the traffic pattern); and

(iv) Include 3 hours in a gyroplane within 2 months before the date of the practical test.

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**(e) *Course for an additional lighter-than-air category and airship class rating.***

(1) For the private pilot certificate, the course requires 20 hours of flight training on the areas of operation under , paragraph IV(d)(7) of Appendix A to this part. An FSTD cannot be used more than 4 hours to meet the training requirements, and use of the FTD is limited to 3 hours of the 4 hours permitted. The course must—

(i) Include 3 hours of cross-country flight training in an airship;

(ii) Include 3 hours of nighttime flight training in an airship that includes one cross-country flight of more than 25 NM total distance and 5 takeoffs and 5 landings to a full stop (with each landing involving a flight in the traffic pattern) at an aerodrome;

(iii) Include 3 hours of flight training in an airship on the control and maneuvering of an airship solely by reference to instruments, including straight and level flight, constant airspeed climbs and descents, turns to a heading, recovery from unusual flight attitudes, radio communications, and the use of navigation systems/facilities and radar services appropriate to instrument flight; and

(iv) Include 3 hours of flight training in an airship within 2 months before the date of the practical test.

(2) For the commercial pilot certificate, the course requires 55 hours of flight training on the areas of operation under paragraph V(d)(7) of Appendix C to this part. An FSTD cannot be used more than 16.5 hours to meet the training requirements, and use of the FTD is limited to 11 hours of the 16.5 hours permitted. The course must—

(i) Include 3 hours of instrument training in an airship that must include training using a view-limiting device for attitude instrument flying, partial panel skills, recovery from unusual flight attitudes, and intercepting and tracking routes and courses using navigation systems;

(ii) Include a one hour cross-country flight during daytime conditions in an airship that consists of, a total straight-line distance of more than 25 NM from the original point of departure;

(iii) Include a one hour cross-country flight during nighttime conditions in an airship that consists of a total straight-line distance of more than 25 NM from the original point

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of departure; and

(iv) Include 3 hours of flight training in an airship within 2 months before the date of the practical test.

**(f) *Course for an additional lighter-than-air category and a gas balloon class rating.***

(1) For the private pilot certificate, the course requires 8 hours of flight training that includes five training flights on the areas of operations under paragraph IV(d)(8) of Appendix A to this part. An FSTD cannot be used more than 1.6 hours to meet the training requirements, and use of the FTD is limited to 1.2 hours of the 1.6 hours permitted. The course must include—

(i) Two flights of 1 hour each;

(ii) One flight involving a controlled ascent to 3 000 ft (900 m) above the launch site; and

(iii) Two flights within 2 months before the date of the practical test.

(2) For the commercial pilot certificate, the course requires 10 hours of flight training that includes eight training flights on the areas of operations under paragraph V(d)(8) of Appendix C to this part. An FSTD cannot be used more than 3 hours to meet the training requirements, and use of the FTD is limited to 2 hours of the 3 hours permitted. The course must include—

(i) Two flights of 1 hour each;

(ii) One flight involving a controlled ascent to 5 000 ft (1 500 m) above the launch site; and

(iii) Two flights within 2 months before the date of the practical test.

**(g) *Course for an additional lighter-than-air category and a hot air balloon class rating.***

(1) For the private pilot certificate, the course requires 8 hours of flight training that includes five training flights on the areas of operations under paragraph IV(d)(8) of Appendix A to this part. An FSTD cannot be used more than 1.6 hours to meet the training requirements, and use of the FTD is limited to 1.2 hours of the 1.6 hours permitted. The course must include—

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- (i) Two flights of 30 minutes each;
- (ii) One flight involving a controlled ascent to 2 000 ft (600 m) above the launch site;  
and
- (iii) Two flights within 2 months before the date of the practical test.

(2) For the commercial pilot certificate, the course requires 10 hours of flight training that includes eight training flights on the areas of operation under paragraph V(d)(8) of Appendix C to this part. An FSTD cannot be used more than 3 hours to meet the training requirements, and use of the FTD is limited to 2 hours of the 3 hours permitted. The course must include—

- (i) Two flights of 30 minutes each;
- (ii) One flight involving a controlled ascent to 3 000 ft (900 m) above the launch site;  
and
- (iii) Two flights within 2 months before the date of the practical test.

**(h) *Course for an additional powered-lift category rating.***

(1) For the private pilot certificate, the course requires 20 hours flight training on the areas of operations under paragraph IV(d)(5) of Appendix A to this part. An FSTD cannot be used more than 4 hours to meet the training requirements, and use of the FTD is limited to 3 hours of the 4 hours permitted. The course must—

- (i) Include 3 hours of cross-country flight training in a powered-lift;
- (ii) Include 3 hours of nighttime flight training in a powered-lift that includes one cross-country flight of more than 100 NM total distance, and 10 takeoffs and 10 landings to a full stop (with each landing involving a flight in the traffic pattern) at an aerodrome;
- (iii) Include 3 hours of flight training in a powered-lift on the control and maneuvering of a powered-lift solely by reference to instruments, including straight and level flight, constant airspeed climbs and descents, turns to a heading, recovery from unusual flight attitudes, radio communications, and the use of navigation systems/facilities and radar services appropriate to instrument flight;

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(iv) If the person does not hold a private pilot certificate with an airplane or powered-lift category rating, include 10 hours of solo flight training in a powered-lift, including 5 hours of cross-country flight training, with at least one 150-NM cross-country flight with full-stop landings at a minimum of three points and one segment of the flight consisting of a straight-line distance of more than 50 NM between the take-off and landing locations; and

(v) Include 3 hours of flight training in a powered-lift within 2 months before the date of the practical test.

(2) For the commercial pilot certificate, the course requires 55 hours flight training on the areas of operations under paragraph V(d)(5) of Appendix C to this part. An FSTD cannot be used more than 16.5 hours to meet the training requirements, and use of the FTD is limited to 11 hours of the 16.5 hours permitted. The course must—

(i) Include 5 hours of instrument training in a powered-lift that must include training using a view-limiting device for attitude instrument flying, partial panel skills, recovery from unusual flight attitudes, and intercepting and tracking routes and courses using navigation systems;

(ii) Include—

(A) If the person does not hold a commercial pilot certificate with an airplane category rating, 5 hours solo cross-country flight training or 5 hours cross-country flight training in a powered-lift performing the duties of a PIC while under the supervision of a certificated flight instructor, including at least one 300-NM cross-country flight with landings at a minimum of three points, and one segment of the flight consisting of a straight-line distance of at least 250 NM; or

(B) If the person holds a commercial pilot certificate with an airplane category rating, one 2-hour cross-country flight during daytime conditions in a powered-lift, a total straight-line distance of more than 100 NM from the original point of departure;

(iii) Include one 2-hour cross-country flight during nighttime conditions in a powered-lift, a total straight-line distance of more than 100 NM from the original point of departure; and

(iv) Include 3 hours of flight training in a powered-lift within 2 months before the date of

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the practical test.

(3) For the ATP certificate, the course requires 25 hours flight training in a powered-lift on the areas of operation under paragraph V(c) of Appendix D to this part that includes 15 hours of instrument training. An FSTD cannot be used more than 12.5 hours to meet the training requirements, and use of the FTD is limited to 6.25 hours of the 12.5 hours permitted.

**(i) *Course for an additional glider category rating.***

(1) For the private pilot certificate, the course requires 4 hours of flight training in a glider on the areas of operations under paragraph IV(d)(6) of Appendix A to this part. An FSTD cannot be used more than 0.8 hours to meet the training requirements, and use of the FTD is limited to 0.6 hours of the 0.8 hours permitted. The course must include—

(i) Five training flights in a glider with a certificated flight instructor on the launch/tow procedures approved for the course and on the appropriate approved areas of operation listed under paragraph IV(d)(6) of Appendix A to this part and

(ii) Three training flights in a glider with a certificated flight instructor within 2 months before the date of the practical test.

(2) The commercial pilot certificate level requires 4 hours of flight training in a glider on the areas of operation under paragraph V(d)(6) of Appendix C to this part. An FSTD cannot be used more than 0.8 hours to meet the training requirements, and use of the FTD is limited to 0.6 hours of the 0.8 hours permitted. The course must include—

(i) Five training flights in a glider with a certificated flight instructor on the launch/tow procedures approved for the course and on the appropriate approved areas of operation listed under paragraph V(d)(6) of Appendix C to this part and

(ii) Three training flights in a glider with a certificated flight instructor within 2 months before the date of the practical test.

**(j) *Course for an additional powered parachute category rating.***

(1) For the private pilot certificate, the course must include 20 hours of flight training on the areas of operations under paragraph IV(d)(9) of Appendix A to this part . An FSTD cannot be used to meet more than 4 hours of the training requirements, and the use of the FTD is limited



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to 3 hours of the 4 hours permitted. The course must—

- (i) Include one hour of cross-country training in a powered parachute;
- (ii) Include 3 hours of nighttime flight training in a powered parachute that includes 10 takeoffs and 10 landings (with each landing involving a flight in the traffic pattern) at an aerodrome; and
- (iii) Include 3 hours of flight training in a powered parachute within 2 months before the date of the practical test.

(2) For the commercial pilot certificate, the course must include 30 hours of flight training on the areas of operations under paragraph V(d)(9) of Appendix C to this part. An FSTD cannot be used to meet more than 9 hours of the training requirements, and the use of the FTD is limited to 6 hours of the 9 hours permitted. The course must—

- (i) Include one 2-hour cross-country flight during daytime conditions in a powered parachute, a total straight line distance of more than 50 NM from the original point of departure;
- (ii) Include 2 hours of flight training during nighttime conditions in a powered parachute at an aerodrome, that includes 10 takeoffs and 10 landings (with each landing involving a flight in the traffic pattern); and
- (iii) Include 3 hours in a powered parachute within 2 months before the date of the practical test.

**(k) *Course for an additional weight-shift-control aircraft category rating.***

(1) For the private pilot certificate, the course requires 20 hours flight training on the areas of operations under paragraph IV(d)(10) of Appendix A to this part. An FSTD cannot be used more than 4 hours to meet the training requirements, and use of the FTD is limited to 3 hours of the 4 hours permitted. The course must—

- (i) Include 3 hours of cross-country flight training in a weight-shift-control aircraft;
- (ii) Include 3 hours of nighttime flight training in a weight-shift-control aircraft that includes one cross-country flight of more than 75 NM total distance, and 10 takeoffs and

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10 landings (with each landing involving a flight in the traffic pattern) at an aerodrome; and

(iii) Include 3 hours of flight training in a weight-shift-control aircraft within 2 months before the date of the practical test.

(2) The commercial pilot certificate level requires 55 hours flight training on the areas of operations under paragraph V(d)(10) of Appendix C to this part. An FSTD cannot be used more than 16.5 hours to meet the training requirements, and use of the FTD is limited to 11 hours of the 16.5 hours permitted. The course must—

(i) Include one 2-hour cross-country flight during daytime conditions in a weight-shift-control aircraft, a total straight-line distance of more than 100 NM from the original point of departure;

(ii) Include one 2 hour cross country flight during nighttime conditions in a weight shift control aircraft, a total straight line distance of more than 100 NM from the original point of departure; and

(iii) Include 3 hours in a weight-shift-control aircraft within 2 months before the date of the practical test.

(1) ***Course for addition of a single engine class rating to an existing airplane category rating.***

(1) For the private pilot certificate, the course requires 3 hours of flight training in the areas of operations under paragraph IV(d)(1) of Appendix A to this part. An FSTD cannot be used more than 0.6 hours to meet the training requirements, and use of the FTD is limited to 0.4 hours of the 0.6 hours permitted. The course must—

(i) Include 3 hours of cross-country training in a single-engine airplane;

(ii) Include 3 hours of nighttime flight training in a single-engine airplane that includes one cross-country flight of more than 100 NM total distance in a single-engine airplane and 10 takeoffs and 10 landings to a full stop (with each landing involving a flight in the traffic pattern) at an aerodrome;

(iii) Include 3 hours of flight training in a single-engine airplane on the control and maneuvering of a single-engine airplane solely by reference to instruments, including

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straight and level flight, constant airspeed climbs and descents, turns to a heading, recovery from unusual flight attitudes, radio communications, and the use of navigation systems/facilities and radar services appropriate to instrument flight; and

(iv) Include 3 hours of flight training in a single-engine airplane within 2 months before the date of the practical test.

(2) For the commercial pilot certificate, the course requires 10 hours of flight training on the areas of operations under paragraph V(d)(1) of Appendix C to this part—

(i) Including 5 hours of instrument training in a single-engine airplane that must include training using a view-limiting device for attitude instrument flying, partial panel skills, recovery from unusual flight attitudes, and intercepting and tracking routes and courses using navigation systems;

(ii) Including 10 hours of flight training in an airplane that has retractable landing gear, flaps, and a controllable pitch propeller, or is turbine-powered;

(iii) Including one 2-hour cross-country flight during daytime conditions in a single engine airplane and a total straight-line distance of more than 100 NM from the original point of departure;

(iv) Including one 2-hour cross-country flight during nighttime conditions in a single-engine airplane and a total straight-line distance of more than 100 NM from the original point of departure; and

(v) Including 3 hours of flight training in a single-engine airplane within 2 months before the date of the practical test.

(3) For the ATP certificate, the course requires 25 hours flight training in a single-engine airplane on the areas of operation under paragraph V(c) of Appendix D to this part, that includes 15 hours of instrument training. An FSTD cannot be used more than 12.5 hours to meet the training requirements, and use of the FTD is limited to 6.25 hours of the 12.5 hours permitted.

***(m) Course for addition of a multi-engine class rating to an existing airplane category rating.***

(1) For the private pilot certificate, the course requires 3 hours of flight training on the areas of

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operations under paragraph IV(d)(2) of Appendix A to this part. An FSTD cannot be used more than 0.6 hours to meet the training requirements, and use of the FTD is limited to 0.4 hours of the 0.6 hours permitted. The course must—

- (i) Include 3 hours of cross-country training in a multi-engine airplane;
- (ii) Include 3 hours of nighttime flight training in a multi-engine airplane that includes one cross-country flight of more than 100 NM total distance in a multi-engine airplane, and 10 takeoffs and 10 landings to a full stop (with each landing involving a flight in the traffic pattern) at an aerodrome;
- (iii) Include 3 hours of flight training in a multi-engine airplane on the control and maneuvering of a multi-engine airplane solely by reference to instruments, including straight and level flight, constant airspeed climbs and descents, turns to a heading, recovery from unusual flight attitudes, radio communications, and the use of navigation systems/facilities and radar services appropriate to instrument flight; and
- (iv) Include 3 hours of flight training in a multi-engine airplane within 2 months before the date of the practical test.

(2) For the commercial pilot certificate, the course requires 10 hours of training on the areas of operations under paragraph V(d)(2) of Appendix C to this part. An FSTD cannot be used more than 3 hours to meet the training requirements, and use of the FTD is limited to 2 hours of the 3 hours permitted. The course must—

- (i) Include 5 hours of instrument training in a multi-engine airplane that must include training using a view-limiting device on for attitude instrument flying, partial panel skills, recovery from unusual flight attitudes, and intercepting and tracking routes and courses using navigation systems;
- (ii) Include 10 hours of training in a multi-engine airplane that has retractable landing gear, flaps, and a controllable pitch propeller, or is turbine-powered;
- (iii) Include one 2-hour cross-country flight during daytime conditions in a multi-engine airplane and, a total straight-line distance of more than 100 NM from the original point of departure;
- (iv) Include one 2-hour cross-country flight during nighttime conditions in a multi-

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engine airplane and, a total straight-line distance of more than 100 NM from the original point of departure; and

(iv) Include 3 hours of flight training in a multi-engine airplane within 2 months before the date of the practical test.

(3) For the ATP certificate, the course requires 25 hours of training in a multi-engine airplane on the areas of operation under paragraph V(c) of Appendix D to this part that includes 15 hours of instrument training. An FSTD cannot be used more than 12.5 hours to meet the training requirements, and use of the FTD is limited to 6.25 hours of the 12.5 hours permitted.

**(n) *Course for addition of a helicopter class rating to an existing rotorcraft category rating.***

(1) For the private pilot certificate, the course requires 3 hours flight training on the areas of operations under paragraph IV(d)(3) of Appendix A to this part. An FSTD cannot be used more than 0.6 hours to meet the training requirements, and use of the FTD is limited to 0.4 hours of the 0.6 hours permitted. The course must—

(i) Include 3 hours of cross-country training in a helicopter;

(ii) Include 3 hours of nighttime flight training in a helicopter that includes one cross-country flight of more than 50 NM total distance, and 10 takeoffs and 10 landings to a full stop (with each landing involving a flight in the traffic pattern) at an aerodrome; and

(iii) Include 3 hours of flight training in a helicopter within 2 months before the date of the practical test.

(2) For the commercial pilot certificate, the course requires 5 hours flight training on the areas of operations under paragraph V(d)(3) of Appendix C to this part. Use of an FSTD in the approved training course cannot exceed 1 hour; however, use of the FTD cannot exceed 0.7 of the one hour. The course must—

(i) Include 5 hours on the control and maneuvering of a helicopter solely by reference to instruments, and must include training using a view-limiting device for attitude instrument flying, partial panel skills, recovery from unusual flight attitudes, and intercepting and tracking routes and courses using navigation systems. This aeronautical experience may be performed in an aircraft, FSTD, or ATD;

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(ii) Include one 2-hour cross-country flight during daytime conditions in a helicopter and, a total straight-line distance of more than 50 NM from the original point of departure;

(iii) Include one 2-hour cross-country flight during nighttime conditions in a helicopter and a total straight-line distance of more than 50 NM from the original point of departure; and

(iv) Include 3 hours of flight training in a helicopter within 2 months before the date of the practical test.

(3) For the ATP certificate, the course requires 25 hours of flight training in a helicopter on the areas of operation under paragraph V(c) of Appendix D to this part that includes 15 hours of instrument training. An FSTD cannot be used more than 12.5 hours to meet the training requirements, and use of the FTD is limited to 6.25 hours of the 12.5 hours permitted.

**(o) *Course for addition of a gyroplane class rating to an existing rotorcraft category rating.***

(1) For the private pilot certificate, the course requires 3 hours flight training on the areas of operations under paragraph IV(d)(4) of Appendix A to this part. An FSTD cannot be used more than 0.6 hours to meet the training requirements, and use of the FTD is limited to 0.4 hours of the 0.6 hours permitted. The course must—

(i) Include 3 hours of cross-country training in a gyroplane;

(ii) Include 3 hours of nighttime flight training in a gyroplane that includes one cross-country flight of more than 50 NM total distance, and 10 takeoffs and 10 landings to a full stop (with each landing involving a flight in the traffic pattern) at an aerodrome; and

(iii) Include 3 hours of flight training in a gyroplane within 2 months before the date of the practical test.

(2) For the commercial pilot certificate, the course requires 5 hours flight training on the areas of operations under paragraph V(d)(4) of Appendix C to this part. An FSTD cannot be used more than 1 hour to meet the training requirements, and use of the FTD is limited to 0.7 hours of the 1 hour permitted. The course must—

(i) Include 2.5 hours on the control and maneuvering of a gyroplane solely by reference

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to instruments, and must include training using a view-limiting device for attitude instrument flying, partial panel skills, recovery from unusual flight attitudes, and intercepting and tracking routes and courses using navigation systems. This aeronautical experience may be performed in an aircraft, FSTD, or ATD.

(ii) Include 3 hours of cross-country flight training in a gyroplane.

(iii) Include 2 hours of flight training during nighttime conditions in a gyroplane at an aerodrome that includes 10 takeoffs and 10 landings to a full stop (with each landing involving a flight in the traffic pattern).

(iv) Include 3 hours of flight training in a gyroplane within 2 months before the date of the practical test.

***(p) Course for addition of an airship class rating to an existing lighter-than-air category rating.***

(1) For the private pilot certificate, the course requires 20 hours of flight training on the areas of operation under paragraph IV(d)(7) of Appendix A to this part. An FSTD cannot be used more than 4 hours to meet the training requirements, and use of the FTD is limited to 3 hours of the 4 hours permitted. The course must—

(i) Include 3 hours of cross-country training in an airship;

(ii) Include 3 hours of nighttime flight training in an airship that includes one cross-country flight of more than 25 NM total distance, and five takeoffs and five landings to a full stop (with each landing involving a flight in the traffic pattern) at an aerodrome;

(iii) Include 3 hours of flight training in an airship on the control and maneuvering of an airship solely by reference to instruments, including straight and level flight, constant airspeed climbs and descents, turns to a heading, recovery from unusual flight attitudes, radio communications, and the use of navigation systems/facilities and radar services appropriate to instrument flight; and

(iv) Include 3 hours of flight training in an airship within 2 months before the date of the practical test.

(2) For the commercial pilot certificate, the course requires 55 hours of flight training on the

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areas of operation under paragraph V(d)(7) of Appendix C to this part. An FSTD cannot be used more than 16.5 hours to meet the training requirements, and use of the FTD is limited to 11 hours of the 16.5 hours permitted. The course must—

- (i) Include 3 hours of instrument training in an airship that must include training using a view-limiting device for attitude instrument flying, partial panel skills, recovery from unusual flight attitudes, and intercepting and tracking routes and courses using navigation systems;
- (ii) Include a 1 hour cross-country flight during daytime conditions in an airship that consists of a total straight-line distance of more than 25 NM from the original point of departure;
- (iii) Include a 1 hour cross-country flight during nighttime conditions in an airship that consists of a total straight-line distance of more than 25 NM from the original point of departure; and
- (iv) Include 3 hours of flight training in an airship within 2 months before the date of the practical test.

***(q) Course for addition of a gas balloon class rating to an existing lighter-than-air category rating.***

(1) For the private pilot certificate, the course requires 8 hours of flight training that includes five training flights on the areas of operations under paragraph IV(d)(8) of Appendix A to this part. An FSTD cannot be used more than 1.6 hours to meet the training requirements, and use of the FTD is limited to 1.2 hours of the 1.6 hours permitted. The course must include—

- (i) Two flights of 1 hour each;
- (ii) One flight involving a controlled ascent to 3 000 ft (900 m) above the launch site; and
- (iii) Two flights within 2 months before the date of the practical test.

(2) For the commercial pilot certificate, the course requires 10 hours of flight training that includes eight training flights on the areas of operations under paragraph V(d)(8) of Appendix C to this part. An FSTD cannot be used more than 3 hours to meet the training requirements,



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and use of the FTD is limited to 2 hours of the 3 hours permitted. The course must include—

- (i) Two flights of 1 hour each;
- (ii) One flight involving a controlled ascent to 5 000 ft (1 500 m) above the launch site;  
and
- (iii) Two flights within 2 months before the date of the practical test.

***(r) Course for addition of a hot air balloon class rating to an existing lighter-than-air category rating.***

(1) For the private pilot certificate, the course requires 8 hours of flight training that includes five training flights on the areas of operations under paragraph IV(d)(8) of Appendix A to this part. An FSTD cannot be used more than 1.6 hours to meet the training requirements, and use of the FTD is limited to 1.2 hours of the 1.6 hours permitted. The course must include—

- (i) Two flights of 30 minutes each;
- (ii) One flight involving a controlled ascent to 2 000 ft (600 m) above the launch site;  
and
- (iii) Two flights within 2 months before the date of the practical test.

(2) For the commercial pilot certificate, the course requires 10 hours of flight training that includes eight training flight on the areas of operation under paragraph V(d)(8) of Appendix C to this part. An FSTD cannot be used more than 3 hours to meet the training requirements, and use of the FTD is limited to 2 hours of the 3 hours permitted. The course must include—

- (i) Two flights of 30 minutes each.
- (ii) One flight involving a controlled ascent to 3 000 ft (900 m) above the launch site;  
and
- (iii) Two flights within 2 months before the date of the practical test.

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

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(a) Each student enrolled in an additional aircraft category rating course or an additional aircraft class rating 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 in Section IV of this appendix that are appropriate to the aircraft category and class rating to which the course applies at the appropriate pilot certificate level.

(b) Each student must demonstrate satisfactory proficiency prior to receiving an endorsement to operate an aircraft in solo flight.

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**APPENDIX I TO GACAR PART 141 – AIRCRAFT TYPE RATING COURSE, FOR  
OTHER THAN AN AIRLINE TRANSPORT PILOT CERTIFICATE**

**I. Applicability.**

This appendix prescribes the minimum curriculum for an aircraft type rating course other than an ATP certificate, for—

- (a) A type rating in an airplane category—single-engine class,
- (b) A type rating in an airplane category—multi-engine class,
- (c) A type rating in a rotorcraft category—helicopter class,
- (d) A type rating in a powered-lift category, and
- (e) Other aircraft type ratings specified by the President through the aircraft type certificate procedures.

**II. Eligibility for Enrollment.**

Prior to enrolling in the flight portion of an aircraft type rating course, a person must hold at least a private pilot certificate and—

- (a) An instrument rating in the category and class of aircraft that is appropriate to the aircraft type rating to which the course applies, provided the aircraft's type certificate does not have a VFR limitation or
- (b) Be concurrently enrolled in an instrument rating course in the category and class of aircraft that is appropriate to the aircraft type rating to which the course applies, and pass the required instrument rating practical test concurrently with the aircraft type rating practical test.

**III. Aeronautical Knowledge Training.**

- (a) Each approved course must include at least 10 hours of ground training on the aeronautical knowledge areas listed in paragraph (b) of this section, appropriate to the aircraft type rating to which the course applies.

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

- (1) Proper control of airspeed, configuration, direction, altitude, and attitude in accordance with procedures and limitations contained in the AFM, checklists, or other approved material appropriate to the aircraft type;
- (2) Compliance with approved en route, instrument approach, missed approach, ATC, or other applicable procedures that apply to the aircraft type;
- (3) Subjects requiring a practical knowledge of the aircraft type and its powerplant, systems, components, operational, and performance factors;
- (4) The aircraft's normal, abnormal, and emergency procedures, and the operations and limitations relating thereto;
- (5) Appropriate provisions of the approved AFM;
- (6) Location of and purpose for inspecting each item on the aircraft's checklist that relates to the exterior and interior preflight; and
- (7) Use of the aircraft's prestart checklist, appropriate control system checks, starting procedures, radio and electronic equipment checks, and the selection of proper navigation and communication radio facilities and frequencies.

### **IV. Flight Training.**

(a) Each approved course must include at least—

- (1) Flight training on the approved areas of operation under paragraph (c) of this section in the aircraft type to which the course applies and
- (2) Training of 10 hours of which at least 5 hours must be instrument training in the aircraft to which the course applies.

(b) For the use of FSTDs—

- (1) The course may include training in an FSTD, provided it is representative of the aircraft for which the course is approved, meets requirements of this paragraph, and the training is given

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by an authorized instructor.

(2) Training in an FFS that meets the requirements of GACAR § 141.65(a), may be credited for a maximum of 50 percent of the total flight training hour requirements of the approved course, or of this section, whichever is less.

(3) Training in an FTD that meets the requirements of GACAR § 141.65(b), may be credited for a maximum of 25 percent of the total flight training hour requirements of the approved course, or of this section, whichever is less.

(4) Training in the FSTD described in paragraphs (b)(2) and (3) of this section, if used in combination, may be credited for a maximum of 50 percent of the total flight training hour requirements of the approved course, or of this section, whichever is less. However, credit training in an FTD that meets the requirements of GACAR § 141.65(b) cannot exceed the limitation provided for in paragraph (b)(3) of this section.

(c) Each approved course must include the flight training on the areas of operation listed in this paragraph that are appropriate to the aircraft category and class rating to which the course applies:

(1) A type rating for an airplane—single-engine course—

- (i) Preflight preparation,
- (ii) Preflight procedures,
- (iii) Take-off and departure phase,
- (iv) In-flight maneuvers,
- (v) Instrument procedures,
- (vi) Landings and approaches to landings,
- (vii) Normal and abnormal procedures,
- (viii) Emergency procedures, and
- (ix) Postflight procedures.

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(2) A type rating for an airplane—multi-engine course—

- (i) Preflight preparation,
- (ii) Preflight procedures,
- (iii) Take-off and departure phase,
- (iv) In-flight maneuvers,
- (v) Instrument procedures,
- (vi) Landings and approaches to landings,
- (vii) Normal and abnormal procedures,
- (viii) Emergency procedures, and
- (ix) Postflight procedures.

(3) A type rating for a powered-lift course—

- (i) Preflight preparation,
- (ii) Preflight procedures,
- (iii) Take-off and departure phase,
- (iv) In-flight maneuvers,
- (v) Instrument procedures,
- (vi) Landings and approaches to landings,
- (vii) Normal and abnormal procedures,
- (viii) Emergency procedures, and
- (ix) Postflight procedures.

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(4) A type rating for a rotorcraft—helicopter course—

- (i) Preflight preparation,
- (ii) Preflight procedures,
- (iii) Take-off and departure phase,
- (iv) In-flight maneuvers,
- (v) Instrument procedures,
- (vi) Landings and approaches to landings,
- (vii) Normal and abnormal procedures,
- (viii) Emergency procedures, and
- (ix) Postflight procedures.

(5) Other aircraft type ratings specified by the President through aircraft type certificate procedures—

- (i) Preflight preparation,
- (ii) Preflight procedures,
- (iii) Take-off and departure phase,
- (iv) In-flight maneuvers,
- (v) Instrument procedures,
- (vi) Landings and approaches to landings,
- (vii) Normal and abnormal procedures,
- (viii) Emergency procedures, and

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(ix) Postflight procedures.

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

(a) Each student enrolled in an aircraft type rating 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 that are appropriate to the aircraft type rating to which the course applies at the ATP certificate level, and

(b) Each student must demonstrate satisfactory proficiency prior to receiving an endorsement to operate an aircraft in solo flight.



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**APPENDIX J TO GACAR PART 141 – SPECIAL PREPARATION COURSES**

**I. Applicability.**

This appendix prescribes the minimum curriculum for the special preparation courses that are listed in GACAR § 141.11.

**II. Eligibility for Enrollment.**

Prior to enrolling in the flight portion of a special preparation course, a person must hold a pilot certificate, flight instructor certificate, or ground instructor certificate that is appropriate for the exercise of the operating privileges or authorizations sought.

**III. General Requirements.**

(a) To be approved, a special preparation course must—

(1) Meet the appropriate requirements of this appendix; and

(2) Prepare the graduate with the necessary skills, competency, and proficiency to exercise safely the privileges of the certificate, rating, or authorization for which the course is established.

(b) An approved special preparation course must include ground and flight training on the operating privileges or authorization sought, for developing competency, proficiency, resourcefulness, self-confidence, and self-reliance in the student.

**IV. Use of FSTDs.**

(a) The approved special preparation course may include training in an FSTD, provided it is representative of the aircraft for which the course is approved, meets requirements of this paragraph, and the training is given by an authorized instructor.

(b) Except for the airline transport pilot certification program in section (X) of this appendix, training in an FFS that meets the requirements of GACAR § 141.65(a), may be credited for a maximum of 10 percent of the total flight training hour requirements of the approved course, or of

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this section, whichever is less.

(c) Except for the airline transport pilot certification program in section (X) of this appendix, training in an FTD that meets the requirements of GACAR § 141.65(b), may be credited for a maximum of five percent of the total flight training hour requirements of the approved course, or of this section, whichever is less.

(d) Training in the FSTD described in paragraphs (b) and (c) of this section, if used in combination, may be credited for a maximum of 10 percent of the total flight training hour requirements of the approved course, or of this section, whichever is less. However, credit for training in an FTD that meets the requirements of GACAR § 141.65(b) cannot exceed the limitation provided for in paragraph (c) of this section.

### **V. Stage Check and End-of-Course Tests.**

Each person enrolled in a special preparation 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 that are appropriate to the operating privileges or authorization sought, and to which the course applies.

### **VI. Special Operations Course.**

An approved special preparation course for pilots in special operations that are mission-specific for certain aircraft must include at least the following:

(a) Aeronautical knowledge training on—

- (1) Performing that special flight operation,
- (2) Safe piloting operating practices and procedures for performing that special flight operation,
- (3) Applicable parts that pertain to that special flight operation, and
- (4) PIC duties and responsibilities for performing that special flight operation.

(b) Flight training—

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- (1) On that special flight operation and
- (2) To develop skills, competency, proficiency, resourcefulness, self-confidence, and self-reliance in the student for performing that special flight operation in a safe manner.

### **VII. Pilot Refresher Course.**

An approved special preparation pilot refresher course for a pilot certificate, aircraft category and class rating, or an instrument rating must include at least the following:

- (a) Aeronautical knowledge training of 4 hours on—
  - (1) The aeronautical knowledge areas that are applicable to the level of pilot certificate, aircraft category and class rating, or instrument rating, as appropriate, that pertain to that course;
  - (2) Safe piloting operating practices and procedures; and
  - (3) Applicable provisions of GACAR Parts 61 and 91 for pilots.
- (b) Flight training of 6 hours on the approved areas of operation that are applicable to the level of pilot certificate, aircraft category and class rating, or instrument rating, as appropriate, for performing PIC duties and responsibilities.

### **VIII. Flight Instructor Refresher Course.**

An approved special preparation flight instructor refresher course must include at least a combined total of 16 hours of aeronautical knowledge training, flight training, or any combination of ground and flight training on the following:

- (a) Aeronautical knowledge training on—
  - (1) The aeronautical knowledge areas of Appendixes A, B, and C to this part that apply to student, private, and commercial pilot certificates and instrument ratings;
  - (2) The aeronautical knowledge areas of Appendix E to this part that apply to flight instructor certificates;

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(3) Safe piloting operating practices and procedures, including aerodrome operations and operating in KSA airspace; and

(4) Applicable provisions of GACAR Parts 61 and 91 that apply to pilots and flight instructors.

(b) Flight training to review—

(1) The approved areas of operations applicable to student, private, and commercial pilot certificates and instrument ratings and

(2) The skills, competency, and proficiency for performing flight instructor duties and responsibilities.

### **IX. Ground Instructor Refresher Course.**

An approved special preparation ground instructor refresher course must include at least 16 hours of aeronautical knowledge training on—

(a) The aeronautical knowledge areas of Appendixes A, B, and C to this part that apply to student, private, and commercial pilots and instrument rated pilots;

(b) The aeronautical knowledge areas of Appendix E that apply to ground instructors;

(c) Safe piloting operating practices and procedures, including aerodrome operations and operating in KSA airspace; and

(d) Applicable provisions of GACAR Parts 61 and 91 that apply to pilots and ground instructors.

### **X. Airline transport pilot certification training program.**

An approved airline transport pilot certification training program must include the academic and FSTD training set forth in § 61.177. GACA will not approve a course with fewer hours than those prescribed in § 61.177.

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**APPENDIX K TO GACAR PART 141 – PILOT GROUND SCHOOL COURSE**

**I. Applicability.**

This appendix prescribes the minimum curriculum for a pilot ground school course required under this part.

**II. General Requirements.**

An approved course of training for a pilot ground school must include training on the aeronautical knowledge areas that are—

- (a) Needed to safely exercise the privileges of the certificate, rating, or authority for which the course is established and
- (b) Conducted to develop competency, proficiency, resourcefulness, self-confidence, and self-reliance in each student.

**III. Aeronautical Knowledge Training Requirements.**

Each approved pilot ground school course must include—

- (a) The aeronautical knowledge training that is appropriate to the aircraft rating and pilot certificate level to which the course applies and
- (b) An adequate number of total aeronautical knowledge training hours appropriate to the aircraft rating and pilot certificate level to which the course applies.

**IV. Stage Checks and End-of-Course Tests.**

Each person enrolled in a pilot 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 that are appropriate to the operating privileges or authorization that graduation from the course will permit and to which the course applies.

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**APPENDIX L TO GACAR PART 141 – COMBINED PRIVATE PILOT  
CERTIFICATION AND INSTRUMENT RATING COURSE**

**I. Applicability.**

This appendix prescribes the minimum curriculum for a combined private pilot certification and instrument rating course required under this part, for the following ratings:

(a) *Airplane.*

- (1) Airplane single engine and
- (2) Airplane multiengine.

(b) *Rotorcraft helicopter.*

(c) *Powered-lift.*

**II. Eligibility for Enrollment.**

A person must hold a sport pilot or student pilot certificate prior to enrolling in the flight portion of a combined private pilot certification and instrument rating course.

**III. Aeronautical Knowledge Training.**

(a) Each approved course must include at least 65 hours of ground training on the aeronautical knowledge areas listed in paragraph (b) of this section that are appropriate to the aircraft category and class rating of the course.

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

- (1) Applicable GACAR for private pilot privileges, limitations, flight operations, and IFR flight operations;
- (2) Accident reporting requirements of the AIB;
- (3) Applicable subjects of the KSA AIP and the appropriate GACA advisory circulars;

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- (4) Aeronautical charts for VFR navigation using pilotage, dead reckoning, and navigation systems;
- (5) Radio communication procedures;
- (6) Recognition of critical weather situations from the ground and in flight, windshear avoidance, and the procurement and use of aeronautical weather reports and forecasts;
- (7) Safe and efficient operation of aircraft under IFR and conditions;
- (8) Collision avoidance and recognition and avoidance of wake turbulence;
- (9) Effects of density altitude on take-off and climb performance;
- (10) Mass and balance computations;
- (11) Principles of aerodynamics, powerplants, and aircraft systems;
- (12) If the course of training is for an airplane category, stall awareness, spin entry, spins, and spin recovery techniques;
- (13) ATC system and procedures for instrument flight operations;
- (14) IFR navigation and approaches by use of navigation systems;
- (15) Use of IFR en route and instrument approach procedure charts;
- (16) Aeronautical decisionmaking and judgment; and
- (17) Preflight action that includes—
  - (i) How to obtain information on runway lengths at aerodromes of intended use, data on take off and landing distances, weather reports and forecasts, and fuel requirements.
  - (ii) How to plan for alternatives if the planned flight cannot be completed or delays are encountered.
  - (iii) Procurement and use of aviation weather reports and forecasts, and the elements of forecasting weather trends on the basis of that information and personal observation of

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weather conditions.

### **IV. Flight Training.**

(a) Each approved course must include at least 70 hours of training, as described in Section IV and Section V of this appendix, on the approved areas of operation listed in paragraph (d) of Section IV of this appendix that are appropriate to the aircraft category and class rating of the course.

(b) Each approved course must include at least the following flight training:

(1) For an airplane single-engine course: 70 hours of flight training from an authorized instructor on the approved areas of operation in paragraph (d)(1) of this section that includes—

(i) At least 3 hours of cross-country flight training in a single-engine airplane;

(ii) At least 3 hours of night flight training in a single-engine airplane that includes—

(A) One cross-country flight of more than 100 NM total distance and

(B) Ten takeoffs and 10 landings to a full stop (with each landing involving a flight in the traffic pattern) at an aerodrome.

(iii) At least 40 hours of instrument flight training in a single-engine airplane that includes at least one cross-country flight that is performed under IFR and—

(A) Is a distance of at least 250 NM along airways or ATC-directed routing with one segment of the flight consisting of at least a straight-line distance of 100 NM between aerodromes;

(B) Involves an instrument approach at each aerodrome; and

(C) Involves three different kinds of approaches with the use of navigation systems.

(iv) At least 3 hours of flight training in a single-engine airplane in preparation for the practical test within 60 days preceding the date of the test.

(2) For an airplane multi-engine course: 70 hours of training from an authorized instructor on



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the approved areas of operation in paragraph (d)(2) of this section that includes—

- (i) At least 3 hours of cross-country flight training in a multi-engine airplane;
  - (ii) At least 3 hours of night flight training in a multi-engine airplane that includes—
    - (A) One cross-country flight of more than 100 NM total distance and
    - (B) Ten takeoffs and 10 landings to a full stop (with each landing involving a flight in the traffic pattern) at an aerodrome.
  - (iii) At least 40 hours of instrument flight training in a multi-engine airplane that includes at least one cross-country flight that is performed under IFR and—
    - (A) Is a distance of at least 250 NM along airways or ATC-directed routing with one segment of the flight consisting of at least a straight-line distance of 100 NM between aerodromes;
    - (B) Involves an instrument approach at each aerodrome; and
    - (C) Involves three different kinds of approaches with the use of navigation systems.
  - (iv) At least 3 hours of flight training in a multi-engine airplane in preparation for the practical test within 60 days preceding the date of the test.
- (3) For a rotorcraft helicopter course: 70 hours of training from an authorized instructor on the approved areas of operation in paragraph (d)(3) of this section that includes—
- (i) At least 3 hours of cross-country flight training in a helicopter;
  - (ii) At least 3 hours of night flight training in a helicopter that includes—
    - (A) One cross-country flight of more than 50 NM total distance and
    - (B) Ten takeoffs and 10 landings to a full stop (with each landing involving a flight in the traffic pattern) at an aerodrome.
  - (iii) At least 40 hours of instrument flight training in a helicopter that includes at least

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one cross-country flight that is performed under IFR and—

(A) Is a distance of at least 100 NM along airways or ATC-directed routing with one segment of the flight consisting of at least a straight-line distance of 50 NM between aerodromes;

(B) Involves an instrument approach at each aerodrome; and

(C) Involves three different kinds of approaches with the use of navigation systems.

(iv) At least 3 hours of flight training in a helicopter in preparation for the practical test within 60 days preceding the date of the test.

(4) For a powered-lift course: 70 hours of training from an authorized instructor on the approved areas of operation in paragraph (d)(4) of this section that includes—

(i) At least 3 hours of cross-country flight training in a powered-lift;

(ii) At least 3 hours of night flight training in a powered-lift that includes—

(A) One cross country flight of more than 100 NM total distance and

(B) Ten takeoffs and 10 landings to a full stop (with each landing involving a flight in the traffic pattern) at an aerodrome.

(iii) At least 40 hours of instrument flight training in a powered-lift that includes at least one crosscountry flight that is performed under IFR and—

(A) Is a distance of at least 250 NM along airways or ATC-directed routing with one segment of the flight consisting of at least a straight-line distance of 100 NM between aerodromes;

(B) Involves an instrument approach at each aerodrome; and

(C) Involves three different kinds of approaches with the use of navigation systems.

(iv) At least 3 hours of flight training in a powered-lift in preparation for the practical test, within 60 days preceding the date of the test.

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(c) For use of FSTDs—

(1) The course may include training in a combination of FSTDs and ATDs, provided it is representative of the aircraft for which the course is approved, meets the requirements of this section, and the training is given by an authorized instructor.

(2) Training in an FFS that meets the requirements of GACAR § 141.65(a) may be credited for a maximum of 30 hours.

(3) Training in an FTD or ATD that meets the requirements of GACAR §§ 141.65(b) and (c) may be credited for a maximum of 20 hours.

(4) Training in a combination of FTSDs or ATDs, described in paragraphs (c)(2) and (3) of this section, may be credited for a maximum of 30 hours. However, credit for training in an FTD or ATD, that meets the requirements of GACAR §§ 141.65(b) and (c), cannot exceed the limitation provided for in paragraph (c)(3) of this section.

(d) Each approved course must include the flight training on the approved areas of operation listed in this section that are appropriate to the aircraft category and class rating course—

(1) For a combined private pilot certification and instrument rating course involving a single-engine airplane—

- (i) Preflight preparation;
- (ii) Preflight procedures;
- (iii) Aerodrome operations;
- (iv) Takeoffs, landings, and go-arounds;
- (v) Performance maneuvers;
- (vi) Ground reference maneuvers;
- (vii) Navigation and navigation systems;
- (viii) Slow flight and stalls;

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- (ix) Basic instrument maneuvers and flight by reference to instruments;
- (x) Instrument approach procedures;
- (xi) ATC clearances and procedures;
- (xii) Emergency operations;
- (xiii) Night operations; and
- (xiv) Postflight procedures.

(2) For a combined private pilot certification and instrument rating course involving a multi-engine airplane—

- (i) Preflight preparation;
- (ii) Preflight procedures;
- (iii) Aerodrome operations;
- (iv) Takeoffs, landings, and go-arounds;
- (v) Performance maneuvers;
- (vi) Ground reference maneuvers;
- (vii) Navigation and navigation systems;
- (viii) Slow flight and stalls;
- (ix) Basic instrument maneuvers and flight by reference to instruments;
- (x) Instrument approach procedures;
- (xi) ATC clearances and procedures;
- (xii) Emergency operations;

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(xiii) Multi-engine operations;

(xiv) Night operations; and

(xv) Postflight procedures.

(3) For a combined private pilot certification and instrument rating course involving a rotorcraft helicopter—

(i) Preflight preparation;

(ii) Preflight procedures;

(iii) Aerodrome operations;

(iv) Hovering maneuvers;

(v) Takeoffs, landings, and go-arounds;

(vi) Performance maneuvers;

(vii) Navigation and navigation systems;

(viii) Basic instrument maneuvers and flight by reference to instruments;

(ix) Instrument approach procedures;

(x) ATC clearances and procedures;

(xi) Emergency operations;

(xii) Night operations; and

(xiii) Postflight procedures.

(4) For a combined private pilot certification and instrument rating course involving a powered-lift—

(i) Preflight preparation;

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- (ii) Preflight procedures;
- (iii) Aerodrome operations;
- (iv) Hovering maneuvers;
- (v) Takeoffs, landings, and go-arounds;
- (vi) Performance maneuvers;
- (vii) Ground reference maneuvers;
- (viii) Navigation and navigation systems;
- (ix) Slow flight and stalls;
- (x) Basic instrument maneuvers and flight by reference to instruments;
- (xi) Instrument approach procedures;
- (xii) ATC clearances and procedures;
- (xiii) Emergency operations;
- (xiv) Night operations; and
- (xv) Postflight procedures.

(e) If instrument rating privileges are to be exercised in multi-engine aircraft, the flight training under this appendix must include training for the operation of a multi-engine aircraft of the category appropriate to the rating sought solely by reference to instruments with one engine inoperative.

### **V. Solo Flight Training.**

Each approved course must include at least the following solo flight training:

- (a) *For a combined private pilot certification and instrument rating course involving a single-*

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**engine airplane:** 10 hours of flying solo in a single-engine airplane on the appropriate areas of operation in paragraph (d)(1) of Section IV of this appendix that includes at least—

(1) Five hours of solo cross-country flight, including at least one 100-NM cross-country flight with full-stop landings at a minimum of three points, and one segment of the flight consisting of a straight-line distance of at least 50 NM between the take-off and landing locations and

(2) Three takeoffs and three landings to a full stop (with each landing involving a flight in the traffic pattern) at an aerodrome with an operating control tower.

**(b) For a combined private pilot certification and instrument rating course involving a multi-engine airplane:** 10 hours of flying solo in a multi-engine airplane or 10 hours of performing the duties of a PIC while under the supervision of an authorized instructor. The training must consist of the appropriate areas of operation in paragraph (d)(2) of Section IV of this appendix, and include at least—

(1) Five hours of cross-country flight, including at least one 100-NM cross-country flight with full-stop landings at a minimum of three points, and one segment of the flight consisting of a straight-line distance of at least 50 NM between the take-off and landing locations and

(2) Three takeoffs and three landings to a full stop (with each landing involving a flight in the traffic pattern) at an aerodrome with an operating control tower.

**(c) For a combined private pilot certification and instrument rating course involving a helicopter:** 10 hours of flying solo in a helicopter on the appropriate areas of operation in paragraph (d)(3) of Section IV of this appendix that includes at least—

(1) Five hours of solo cross-country flight, including at least one cross-country flight of more than 100 NM with landings at a minimum of three points, and one segment of the flight consisting of a straight-line distance of at least 25 NM between the take-off and landing locations and

(2) Three takeoffs and three landings to a full stop (with each landing involving a flight in the traffic pattern) at an aerodrome with an operating control tower.

**(d) For a combined private pilot certification and instrument rating course involving a powered-lift:** 10 hours of flying solo in a powered-lift on the appropriate areas of operation in

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paragraph (d)(4) of Section IV of this appendix that includes at least—

- (1) Five hours of solo cross-country flight, including at least one 150-NM flight with full-stop landings at a minimum of three points, and one segment of the flight consisting of a straight-line distance of at least 50 NM between the take-off and landing locations and
- (2) Three takeoffs and three landings to a full stop (with each landing involving a flight in the traffic pattern) at an aerodrome with an operating control tower.

### **VI. Stage Checks and End-of-Course Tests.**

- (a) Each student enrolled in a private pilot course must satisfactorily accomplish the stage checks and end-of-course tests in accordance with the school's approved training course that consists of the approved areas of operation listed in paragraph (d) of Section IV of this appendix that are appropriate to the aircraft category and class rating to which the course applies.
- (b) Each student must demonstrate satisfactory proficiency prior to receiving an endorsement to operate an aircraft in solo flight.