

- (v) Takeoffs, landings, and go-arounds;
- (vi) Performance maneuvers;
- (vii) Navigation;
- (viii) Emergency operations;
- (ix) Night operations, except as provided in § 61.110 of this chapter; and
- (x) Postflight procedures.

(4) *Areas of operation for a rotorcraft-gyroplane course:* Areas of operation for a rotorcraft-gyroplane course are the following—

- (i) Preflight preparation;
- (ii) Preflight procedures;
- (iii) Airport 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, except as provided in § 61.110 of this chapter; and
- (xi) Postflight procedures.

(5) *Areas of operation for a powered-lift course:*

Areas of operation for a powered-lift course are the following—

- (i) Preflight preparation;
- (ii) Preflight procedures;
- (iii) Airport and heliport operations;
- (iv) Hovering maneuvers;
- (v) Takeoffs, landings, and go-arounds;
- (vi) Performance maneuvers;
- (vii) Ground reference maneuvers;
- (viii) Navigation;
- (ix) Stalls and slow flight;
- (x) Basic instrument maneuvers;
- (xi) Emergency operations;
- (xii) Night operations, except as provided in § 61.110 of this chapter; and
- (xiii) Postflight procedures.

(6) *Areas of operations for a glider-nonpowered course:* Areas of operation for a glider-nonpowered course are the following—

- (i) Preflight preparation;
- (ii) Preflight procedures;
- (iii) Airport and gliderport operations;
- (iv) Launches and landings;
- (v) Performance speeds;
- (vi) Soaring techniques;
- (vii) Performance maneuvers;
- (viii) Navigation;
- (ix) Stalls and slow flight;
- (x) Emergency operations; and
- (xi) Postflight procedures.

(7) *Areas of operation for a glider-powered course:* Areas of operation for a glider-powered course are the following—

- (i) Preflight preparation;
- (ii) Preflight procedures;
- (iii) Airport and gliderport operations;
- (iv) Takeoffs, landings, and go-arounds;
- (v) Performance speeds;
- (vi) Soaring techniques;
- (vii) Performance maneuvers;
- (viii) Navigation;
- (ix) Stalls and slow flight;
- (x) Emergency operations; and
- (xi) Postflight procedures.

(8) *Areas of operation for a lighter than air-airship course:* Areas of operation for a lighter than air-airship course are the following—

- (i) Preflight preparation;
- (ii) Preflight procedures;

- (iii) Airport operations;
- (iv) Takeoffs, landings, and go-arounds;
- (v) Performance maneuvers;
- (vi) Ground reference maneuvers;
- (vii) Navigation;
- (viii) Emergency operations; and
- (ix) Postflight procedures.

(9) *Areas of operation for a lighter than air-balloon course:* Areas of operation for a lighter than air category-balloon course are the following—

- (i) Preflight preparation;
- (ii) Preflight procedures;
- (iii) Balloonport operations;
- (iv) Lift-offs and landings;
- (v) Performance maneuvers;
- (vi) Navigation;
- (vii) Emergency operations; and
- (viii) Postflight procedures.

5. *Supervised pilot-in-command practice.*

Each approved course must include the following supervised pilot-in-command practice on the areas of operation listed in section 4.(c) of this appendix, appropriate to the aircraft category and class rating for which the course applies, and must include:

(a) *For an airplane-single engine course.* At least 5 hours of supervised pilot-in-command time, on the approved areas of operation in section 4.(c)(1) of this appendix, and the training must include at least—

(1) One supervised PIC cross-country flight of at least more than 100 nautical miles duration, landings at a minimum of three points, and one route of the flight being a straight line distance of at least 50 nautical miles between the takeoff 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 airport with an operating control tower.

(b) *For an airplane-multiengine course.* At least 5 hours of supervised pilot-in-command time, on the approved areas of operation in section 4.(c)(2) of this appendix, and the training must include at least—

(1) One supervised PIC cross-country flight over 100 nautical miles duration, landings at a minimum of three points, and one route of the flight being a straight line distance of at least 50 nautical miles between the takeoff 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 airport with an operating control tower.

(c) *For a rotorcraft-helicopter course.* At least 5 hours of supervised pilot-in-command time, on the approved areas of operation in section 4.(c)(3) of this appendix, and the training must include at least—

(1) One supervised PIC cross-country flight over 50 nautical miles duration, landings at a minimum of three points, and one route of the flight being a straight line distance of at least 25 nautical miles between the takeoff 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 airport with an operating control tower.

(d) *For a rotorcraft-gyroplane course.* At least 5 hours of supervised pilot-in-command time, on the approved areas of operation in section 4.(c)(4) of this appendix, and the training must include at least—

(1) One supervised PIC cross-country flight over 50 nautical miles duration, landings at a minimum of three points, and one route of the flight being a straight line distance of at least 25 nautical miles between the takeoff 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 airport with an operating control tower.

(e) *For a powered-lift course.* At least 5 hours of supervised pilot-in-command time, on the approved areas of operation in section 4.(c)(5) of this appendix, and the training must include at least—

(1) One supervised PIC cross-country flight over 100 nautical miles duration, landings at a minimum of three points, and one route of the flight being a straight line distance of at least 50 nautical miles between the takeoff 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 airport with an operating control tower.

(f) *For a glider-nonpowered course.*

(1) At least 2 flights of supervised pilot-in-command time, on the approved areas of operation in section 4.(c)(6) of this appendix; and

(2) If the course covers ground launch procedures, the supervised pilot in command time must include at least 2 flights using a winch or auto tow on the approved areas of operation in section 4.(c)(6) of this appendix.

(g) *For a glider-powered course.* At least 2 flights of supervised pilot-in-command time, on the approved areas of operation in section 4.(c)(7) of this appendix.

(h) *For a lighter than air-airship course.* At least 5 hours of supervised pilot-in-command time with an authorized flight instructor, on the approved areas of operation in section 4.(c)(8) of this appendix.

(i) *For a lighter than air-balloon course.* At least 2 flights of supervised pilot-in-command time, on the approved areas of operation in section 4.(c)(9) of this appendix, in the balloon for which the course applies.

6. *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, and must consist of the approved areas of operation of section 4 of this appendix for the aircraft category and class rating for which the course applies.

(b) Each student must demonstrate satisfactory proficiency prior to being endorsed to operate an aircraft in supervised PIC flight.

Appendix C—Instrument Rating Course

1. *Applicability.* This appendix prescribes the minimum curriculum for an instrument rating course and an additional instrument rating course, required under this part, for:

- (a) Instrument-airplane single-engine.
- (b) Instrument-airplane multiengine.
- (c) Instrument-helicopter.
- (d) Instrument-airship.
- (e) Instrument-powered-lift.