

(x) Instrument approach procedures.
 (xi) Air traffic control clearances and procedures.

(xii) Emergency operations.

(xiii) Night operations.

(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) Airport and seaplane base 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) Air traffic control clearances and procedures.

(xii) Emergency operations.

(xiii) Multiengine operations.

(xiv) Night operations.

(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) Airport and heliport 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) Air traffic control clearances and procedures.

(xi) Emergency operations.

(xii) Night operations.

(xiii) Postflight procedures.

(4) *For a combined private pilot certification and instrument rating course involving a powered-lift:*

(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 and navigation systems.

(ix) Slow flight and stalls.

(x) Basic instrument maneuvers and flight by reference to instruments.

(xi) Instrument approach procedures.

(xii) Air traffic control clearances and procedures.

(xiii) Emergency operations.

(xiv) Night operations.

(xv) Postflight procedures.

5. *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 an airplane single engine:* Five hours of flying solo in a single-engine airplane on the appropriate areas of operation in paragraph (d)(1) of section 4 of this appendix that includes at least—

(1) One solo cross-country flight of at least 100 nautical miles with landings at a minimum of three points, and one segment of the flight consisting of a straight-line distance of at least 50 nautical miles between the takeoff and landing locations.

(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 a combined private pilot certification and instrument rating course involving an airplane multiengine:* Five hours of flying solo in a multiengine airplane or 5 hours of performing the duties of a pilot in command while under the supervision of an authorized instructor. The training must consist of the appropriate areas of operation in paragraph (d)(2) of section 4 of this appendix, and include at least—

(1) One cross-country flight of at least 100 nautical miles with landings at a minimum of three points, and one segment of the flight consisting of a straight-line distance of at least 50 nautical miles between the takeoff and landing locations.

(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 combined private pilot certification and instrument rating course involving a helicopter:* Five hours of flying solo in a helicopter on the appropriate areas of operation in paragraph (d)(3) of section 4 of this appendix that includes at least—

(1) One solo cross-country flight of more than 50 nautical miles with landings at a minimum of three points, and one segment of the flight consisting of a straight-line distance of at least 25 nautical miles between the takeoff and landing locations.

(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 combined private pilot certification and instrument rating course involving a powered-lift:* Five hours of flying solo in a powered-lift on the appropriate areas of operation in paragraph (d)(4) of section 4 of this appendix that includes at least—

(1) One solo cross-country flight of at least 100 nautical miles with landings at a minimum of three points, and one segment of the flight consisting of a straight-line distance of at least 50 nautical miles between the takeoff and landing locations.

(2) Three takeoffs and three landings to a full stop (with each landing involving a