

Part 141 Private Pilot 14 CFR 14

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:

(1) 35 hours of training if the course is for an airplane, rotorcraft, or powered-lift category rating.

(2) 15 hours of training if the course is for a glider category rating.

(3) 10 hours of training if the course is for a lighter-than-air category with a balloon class rating.

(4) 35 hours of training if the course is for a lighter-than-air category with an airship class rating.

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

(1) Applicable Federal Aviation Regulations for private pilot privileges, limitations, and flight operations;

(2) Accident reporting requirements of the National Transportation Safety Board;

(3) Applicable subjects of the "Aeronautical Information Manual" and the appropriate FAA advisory circulars;

(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, including collision avoidance, and recognition and avoidance of wake turbulence;

(8) Effects of density altitude on takeoff and climb performance;

(9) Weight and balance computations;

(10) Principles of aerodynamics, power-plants, and aircraft systems;

(11) If the course of training is for an airplane category or glider category rating, stall awareness, spin entry, spins, and spin recovery techniques;

(12) Aeronautical decision making and judgment; and

(13) Preflight action that includes -

(i) How to obtain information on runway lengths at airports of intended use, data on takeoff 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.

Flight training

(a) Each approved course must include at least the following flight training, as provided in this section and section No. 5 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) 35 hours of training if the course is for an airplane, rotorcraft, powered-lift, or airship rating.

(2) 6 hours of training if the course is for a glider rating.

(3) 8 hours of training if the course is for a balloon rating.

(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 at least -

(i) Except as provided in [§ 61.111](#) of this chapter, 3 hours of cross-country flight training in a single-engine airplane;

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

(A) One cross-country flight of more than 100-nautical-miles total distance; and

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

(iii) Three 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) 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.

Part 61.109 Aeronautical Experience

(a) For an airplane single-engine rating. Except as provided in [paragraph \(k\)](#) of this section, a [person](#) who applies for a private pilot certificate with an [airplane](#) category and single-engine class [rating](#) must log at least 40 hours of [flight time](#) that includes at least 20 hours of [flight training](#) from an [authorized instructor](#) and 10 hours of solo [flight training](#) in the areas of operation listed in [§ 61.107\(b\)\(1\)](#) of this part, and the training must include at least -

(1) 3 hours of cross-country [flight training](#) in a single-engine [airplane](#);

(2) Except as provided in [§ 61.110](#) of this part, 3 hours of [night flight training](#) in a single-engine [airplane](#) that includes -

(i) One cross-country flight of over 100 nautical miles total distance; and

(ii) 10 takeoffs and 10 landings to a full stop (with each landing involving a flight in the traffic pattern) at an [airport](#).

(3) 3 hours of [flight training](#) in a single-engine [airplane](#) on the control and maneuvering of an [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;

(4) 3 hours of [flight training](#) with an [authorized instructor](#) in a single-engine [airplane](#) in preparation for the [practical test](#), which must have been performed within the preceding 2 calendar months from the month of the test; and

(5) 10 hours of solo [flight time](#) in a single-engine [airplane](#), consisting of at least -

(i) 5 hours of solo [cross-country time](#);

(ii) One solo cross country flight of 150 nautical miles total distance, with full-stop landings at three points, and one segment of the flight consisting of a straight-line distance of more than 50 nautical miles between the takeoff and landing locations; and

(iii) 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.

61.105 Aeronautical knowledge.

(a) General. A [person](#) who is applying for a private pilot certificate must receive and log [ground training](#) from an [authorized instructor](#) or complete a home-study course on the aeronautical knowledge areas of [paragraph \(b\)](#) of this section that apply to the [aircraft](#) category and class [rating](#) sought.

(b) Aeronautical knowledge areas.

(1) Applicable Federal Aviation Regulations of this chapter that relate to private pilot privileges, limitations, and flight operations;

(2) Accident reporting requirements of the National Transportation Safety Board;

(3) Use of the applicable portions of the “Aeronautical Information Manual” and [FAA](#) advisory circulars;

(4) Use of 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](#), including collision avoidance, and recognition and avoidance of wake turbulence;

(8) Effects of density altitude on takeoff and climb performance;

(9) Weight and balance computations;

(10) Principles of aerodynamics, powerplants, and [aircraft](#) systems;

(11) Stall awareness, spin entry, spins, and spin recovery techniques for the [airplane](#) and [glider](#) category ratings;

(12) Aeronautical decision making and judgment; and

(13) Preflight action that includes -

(i) How to obtain information on runway lengths at [airports](#) of intended use, data on takeoff 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.