

§ 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.