Federal Aviation Administration, DOT

§ 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 distancs, 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.

§ 61.107 Flight proficiency.
(a) General. A person who applies for a private pilot certificate must receive and log ground and flight training from an authorized instructor on the areas of operation of this section that apply to the aircraft category and class rating sought.
(b) Areas of operation. (1) For an airplane category rating with a single-engine class rating:
(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;
(viii) Slow flight and stalls;
(ix) Basic instrument maneuvers;
(x) Emergency operations;
(xi) Night operations, except as provided in § 61.110 of this part; and
(xii) Postflight procedures.
(2) For an airplane category rating with a multiengine class rating:
(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;
(viii) Slow flight and stalls;
(ix) Basic instrument maneuvers;
(x) Emergency operations;
(xi) Multiengine operations;
(xii) Night operations, except as provided in § 61.110 of this part; and
(xiii) Postflight procedures.
(3) For a rotorcraft category rating with a helicopter class rating:
(i) Preflight preparation;
(ii) Preflight procedures;
(iii) Airport and heliport 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, except as provided in § 61.110 of this part; and
(xii) Postflight procedures.