

(4) IFR navigation and approaches by use of navigation systems;

(5) Use of IFR en route and instrument approach procedure charts;

(6) Procurement and use of aviation weather reports and forecasts and the elements of forecasting weather trends based on that information and personal observation of weather conditions;

(7) Safe and efficient operation of aircraft under instrument flight rules and conditions;

(8) Recognition of critical weather situations and windshear avoidance;

(9) Aeronautical decision making and judgment; and

(10) Crew resource management, including crew communication and coordination.

(c) *Flight proficiency.* A person who applies for an instrument rating must receive and log training from an authorized instructor in an aircraft, or in a full flight simulator or flight training device, in accordance with paragraph (g) of this section, that includes the following areas of operation:

(1) Preflight preparation;

(2) Preflight procedures;

(3) Air traffic control clearances and procedures;

(4) Flight by reference to instruments;

(5) Navigation systems;

(6) Instrument approach procedures;

(7) Emergency operations; and

(8) Postflight procedures.

(d) *Aeronautical experience for the instrument-airplane rating.* A person who applies for an instrument-airplane rating must have logged:

(1) Except as provided in paragraph (g) of this section, 50 hours of cross-country flight time as pilot in command, of which 10 hours must have been in an airplane; and

(2) Forty hours of actual or simulated instrument time in the areas of operation listed in paragraph (c) of this section, of which 15 hours must have been received from an authorized instructor who holds an instrument-airplane rating, and the instrument time includes:

(i) Three hours of instrument flight training from an authorized instructor in an airplane that is appropriate to the instrument-airplane rating within

2 calendar months before the date of the practical test; and

(ii) Instrument flight training on cross country flight procedures, including one cross country flight in an airplane with an authorized instructor, that is performed under instrument flight rules, when a flight plan has been filed with an air traffic control facility, and that involves—

(A) A flight of 250 nautical miles along airways or by directed routing from an air traffic control facility;

(B) An instrument approach at each airport; and

(C) Three different kinds of approaches with the use of navigation systems.

(e) *Aeronautical experience for the instrument-helicopter rating.* A person who applies for an instrument-helicopter rating must have logged:

(1) Except as provided in paragraph (g) of this section, 50 hours of cross-country flight time as pilot in command, of which 10 hours must have been in a helicopter; and

(2) Forty hours of actual or simulated instrument time in the areas of operation listed under paragraph (c) of this section, of which 15 hours must have been with an authorized instructor who holds an instrument-helicopter rating, and the instrument time includes:

(i) Three hours of instrument flight training from an authorized instructor in a helicopter that is appropriate to the instrument-helicopter rating within 2 calendar months before the date of the practical test; and

(ii) Instrument flight training on cross country flight procedures, including one cross country flight in a helicopter with an authorized instructor that is performed under instrument flight rules and a flight plan has been filed with an air traffic control facility, and involves—

(A) A flight of 100 nautical miles along airways or by directed routing from an air traffic control facility;

(B) An instrument approach at each airport; and

(C) Three different kinds of approaches with the use of navigation systems.

(f) *Aeronautical experience for the instrument-powered-lift rating.* A person