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(b) The aeronautical knowledge areas of part 61 of this chapter that apply to ground instructors;

(c) Safe piloting operating practices and procedures, including airport operations and operating in the National Airspace System; and

(d) Applicable provisions of parts 61 and 91 of this chapter that apply to pilots and ground instructors.

13. Airline transport pilot certification training program. An approved airline transport pilot certification training program must include the academic and FSTD training set forth in §61.156 of this chapter. The FAA will not approve a course with fewer hours than those prescribed in §61.156 of this chapter.

[Doc. No. 25910, 62 FR 16347, Apr. 4, 1997; Amdt. 141–9, 62 FR 40910, July 30, 1997, as amended by Amdt. 141–17, 78 FR 42380, July 15, 2013; Amdt. 141–17A, 78 FR 53026, Aug. 28, 2013]

**APPENDIX L TO PART 141—PILOT  
GROUND SCHOOL COURSE**

1. *Applicability.* This appendix prescribes the minimum curriculum for a pilot ground school course required under this part.

2. *General requirements.* An approved course of training for a pilot ground school must include training on the aeronautical knowledge areas that are:

(a) Needed to safely exercise the privileges of the certificate, rating, or authority for which the course is established; and

(b) Conducted to develop competency, proficiency, resourcefulness, self-confidence, and self-reliance in each student.

3. *Aeronautical knowledge training requirements.* Each approved pilot ground school course must include:

(a) The aeronautical knowledge training that is appropriate to the aircraft rating and pilot certificate level for which the course applies; and

(b) An adequate number of total aeronautical knowledge training hours appropriate to the aircraft rating and pilot certificate level for which the course applies.

4. *Stage checks and end-of-course tests.* Each person enrolled in a pilot ground school course must satisfactorily accomplish the stage checks and end-of-course tests, in accordance with the school's approved training course, consisting of the approved areas of operation that are appropriate to the operating privileges or authorization that graduation from the course will permit and for which the course applies.

**APPENDIX M TO PART 141—COMBINED  
PRIVATE PILOT CERTIFICATION AND  
INSTRUMENT RATING COURSE**

1. *Applicability.* This appendix prescribes the minimum curriculum for a combined private pilot certification and instrument rating course required under this part, for the following ratings:

- (a) Airplane.
  - (1) Airplane single-engine.
  - (2) Airplane multiengine.
- (b) Rotorcraft helicopter.
- (c) Powered-lift.

2. *Eligibility for enrollment.* A person must hold a sport pilot, recreational, or student pilot certificate prior to enrolling in the flight portion of a combined private pilot certification and instrument rating course.

3. *Aeronautical knowledge training.*

(a) Each approved course must include at least 65 hours of ground training on the aeronautical knowledge areas listed in paragraph (b) of this section that are appropriate to the aircraft category and class rating of the course:

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

(1) Applicable Federal Aviation Regulations for private pilot privileges, limitations, flight operations, and instrument flight rules (IFR) 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 visual flight rules (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 under instrument flight rules and conditions.

(8) Collision avoidance and recognition and avoidance of wake turbulence.

(9) Effects of density altitude on takeoff and climb performance.

(10) Weight and balance computations.

(11) Principles of aerodynamics, powerplants, and aircraft systems.

(12) If the course of training is for an airplane category, stall awareness, spin entry, spins, and spin recovery techniques.

(13) Air traffic control system and procedures for instrument flight operations.

(14) IFR navigation and approaches by use of navigation systems.

(15) Use of IFR en route and instrument approach procedure charts.

(16) Aeronautical decision making and judgment.

(17) Preflight action that includes—