equal to the standards currently required for the issue of the certificate and rating that it holds.

(b) A school may not make a substantial change in facilities, equipment, or material that have been approved for a particular curriculum, unless that change is approved in advance.

§ 147.38 Maintenance of curriculum requirements.

(a) Each certificated aviation maintenance technician school shall adhere to its approved curriculum. With FAA approval, curriculum subjects may be taught at levels exceeding those shown in appendix A of this part.

(b) A school may not change its approved curriculum unless the change is approved in advance.

[Amdt. 147–2, 35 FR 5534, Apr. 3, 1970, as amended by Amdt. 147–5, 57 FR 28960, June 29, 1992]

§ 147.38a Quality of instruction.

Each certificated aviation maintenance technician school shall provide instruction of such quality that, of its graduates of a curriculum for each rating who apply for a mechanic certificate or additional rating within 60 days after they are graduated, the percentage of those passing the applicable FAA written tests on their first attempt during any period of 24 calendar months is at least the percentage figured as follows:

(a) For a school graduating fewer than 51 students during that period—the national passing norm minus the number 20.

(b) For a school graduating at least 51, but fewer than 201, students during that period—the national passing norm minus the number 15.

(c) For a school graduating more than 200 students during that period—the national passing norm minus the number 10.

As used in this section, ''national passing norm'' is the number representing the percentage of all graduates (of a curriculum for a particular rating) of all certificated aviation maintenance technician schools who apply for a mechanic certificate or additional rating within 60 days after they are graduated and pass the applicable FAA written tests on their first attempt during the period of 24 calendar months described in this section.

[Amdt. 147–2, 35 FR 5534, Apr. 3, 1970, as amended by Amdt. 147–3, 41 FR 47230, Oct. 28, 1976]

§ 147.39 Display of certificate.

Each holder of an aviation maintenance technician school certificate and ratings shall display them at a place in the school that is normally accessible to the public and is not obscured. The certificate must be available for inspection by the Administrator.

§ 147.41 Change of location.

The holder of an aviation maintenance technician school certificate may not make any change in the school's location unless the change is approved in advance. If the holder desires to change the location he shall notify the Administrator, in writing, at least 30 days before the date the change is contemplated. If he changes its location without approval, the certificate is revoked.

§ 147.43 Inspection.

The Administrator may, at any time, inspect an aviation maintenance technician school to determine its compliance with this part. Such an inspection is normally made once each six months to determine if the school continues to meet the requirements under which it was originally certificated. After such an inspection is made, the school is notified, in writing, of any deficiencies found during the inspection. Other informal inspections may be made from time to time.

§ 147.45 Advertising.

(a) A certificated aviation maintenance technician school may not make any statement relating to itself that is false or is designed to mislead any person considering enrollment therein.

(b) Whenever an aviation maintenance technician school indicates in advertising that it is a certificated school, it shall clearly distinguish between its approved courses and those that are not approved.

APPENDIX A TO PART 147—CURRICULUM REQUIREMENTS

This appendix defines terms used in appendices B, C, and D of this part, and describes the levels of proficiency at which items under each subject in each curriculum must be taught, as outlined in appendices B, C, and D.

(a) *Definitions.* As used in appendices B, C, and D:

(1) *Inspect* means to examine by sight and touch.

(2) *Check* means to verify proper operation.

(3) *Troubleshoot* means to analyze and identify malfunctions.

(4) *Service* means to perform functions that assure continued operation.

(5) *Repair* means to correct a defective condition. Repair of an airframe or powerplant system includes component replacement and adjustment, but not component repair.

(6) *Overhaul* means to disassemble, inspect, repair as necessary, and check.

(b) *Teaching levels.* (1) Level 1 requires:

(i) Knowledge of general principles, but no practical application.

(ii) No development of manipulative skill.

(iii) Instruction by lecture, demonstration, and discussion.

(2) Level 2 requires:

(i) Knowledge of general principles, and limited practical application.

(ii) Development of sufficient manipulative skill to perform basic operations.

(iii) Instruction by lecture, demonstration, discussion, and limited practical application.

(3) Level 3 requires:

(i) Knowledge of general principles, and performance of a high degree of practical application.

(ii) Development of sufficient manipulative skills to simulate return to service.

(iii) Instruction by lecture, demonstration, discussion, and a high degree of practical application.

(c) *Teaching materials and equipment.* The curriculum may be presented utilizing currently accepted educational materials and equipment, including, but not limited to: calculators, computers, and audio-visual equipment.

[Amdt. 147–2, 35 FR 5534, Apr. 3, 1970, as amended by Amdt. 147–5, 57 FR 28960, June 29, 1992]

APPENDIX B TO PART 147—GENERAL CURRICULUM SUBJECTS

This appendix lists the subjects required in at least 400 hours in general curriculum subjects.

The number in parentheses before each item listed under each subject heading indicates the level of proficiency at which that item must be taught.

Teaching level	
	A. BASIC ELECTRICITY
(2)	1. Calculate and measure capacitance and inductance.
(2)	2. Calculate and measure electrical power.
(3)	3. Measure voltage, current, resistance, and continuity.
(3)	4. Determine the relationship of voltage, current, and resistance in electrical circuits.
(3)	5. Read and interpret aircraft electrical circuit diagrams, including solid state devices and logic functions.
(3)	6. Inspect and service batteries.
	B. AIRCRAFT DRAWINGS
(2)	7. Use aircraft drawings, symbols, and system schematics.
(3)	8. Draw sketches of repairs and alterations.
(3)	9. Use blueprint information.
(3)	10. Use graphs and charts.
	C. WEIGHT AND BALANCE
(2)	11. Weigh aircraft.
(3)	12. Perform complete weight-and-balance check and record data.
	D. FLUID LINES AND FITTINGS
(3)	13. Fabricate and install rigid and flexible fluid lines and fittings.
	E. MATERIALS AND PROCESSES
(1)	14. Identify and select appropriate nondestructive testing methods.
(2)	15. Perform dye penetrant, eddy current, ultrasonic, and magnetic particle inspections.
(1)	16. Perform basic heat-treating processes.
(3)	17. Identify and select aircraft hardware and materials.
(3)	18. Inspect and check welds.
(3)	19. Perform precision measurements.
	F. GROUND OPERATION AND SERVICING
(2)	20. Start, ground operate, move, service, and secure aircraft and identify typical ground operation hazards.
(2)	21. Identify and select fuels.
	G. CLEANING AND CORROSION CONTROL
(3)	22. Identify and select cleaning materials.
(3)	23. Inspect, identify, remove, and treat aircraft corrosion and perform aircraft cleaning.
	H. MATHEMATICS
(3)	24. Extract roots and raise numbers to a given power.
(3)	25. Determine areas and volumes of various geometrical shapes.
(3)	26. Solve ratio, proportion, and percentage problems.
(3)	27. Perform algebraic operations involving addition, subtraction, multiplication, and division of positive and negative numbers.
	I. MAINTENANCE FORMS AND RECORDS
(3)	28. Write descriptions of work performed including aircraft discrepancies and corrective actions using typical aircraft maintenance records.
(3)	29. Complete required maintenance forms, records, and inspection reports.

Teaching level	
	J. BASIC PHYSICS
(2)	30. Use and understand the principles of simple machines; sound, fluid, and heat dynamics; basic aerodynamics; aircraft structures; and theory of flight.
	K. MAINTENANCE PUBLICATIONS
(3)	31. Demonstrate ability to read, comprehend, and apply information contained in FAA and manufacturers' aircraft maintenance specifications, data sheets, manuals, publications, and related Federal Aviation Regulations, Airworthiness Directives, and Advisory material.
(3)	32. Read technical data.
	L. MECHANIC PRIVILEGES AND LIMITATIONS
(3)	33. Exercise mechanic privileges within the limitations prescribed by part 65 of this chapter.

[Amdt. 147–2, 35 FR 5534, Apr. 3, 1970, as amended by Amdt. 147–5, 57 FR 28960, June 29, 1992]

APPENDIX C TO PART 147—AIRFRAME CURRICULUM SUBJECTS

This appendix lists the subjects required in at least 750 hours of each airframe curriculum, in addition to at least 400 hours in general curriculum subjects.

The number in parentheses before each item listed under each subject heading indicates the level of proficiency at which that item must be taught.

I. AIRFRAME STRUCTURES

Teaching level	
	A. WOOD STRUCTURES
(1)	1. Service and repair wood structures.
(1)	2. Identify wood defects.
(1)	3. Inspect wood structures.
	B. AIRCRAFT COVERING
(1)	4. Select and apply fabric and fiberglass covering materials.
(1)	5. Inspect, test, and repair fabric and fiberglass.
	C. AIRCRAFT FINISHES
(1)	6. Apply trim, letters, and touchup paint.
(2)	7. Identify and select aircraft finishing materials.
(2)	8. Apply finishing materials.
(2)	9. Inspect finishes and identify defects.
	D. SHEET METAL AND NON-METALLIC STRUCTURES
(2)	10. Select, install, and remove special fasteners for metallic, bonded, and composite structures.
(2)	11. Inspect bonded structures.
(2)	12. Inspect, test, and repair fiberglass, plastics, honeycomb, composite, and laminated primary and secondary structures.
(2)	13. Inspect, check, service, and repair windows, doors, and interior furnishings.
(3)	14. Inspect and repair sheet-metal structures.
(3)	15. Install conventional rivets.
(3)	16. Form, lay out, and bend sheet metal.

I. AIRFRAME STRUCTURES—Continued

Teaching level	
	E. WELDING
(1)	17. Weld magnesium and titanium.
(1)	18. Solder stainless steel.
(1)	19. Fabricate tubular structures.
(2)	20. Solder, braze, gas-weld, and arc-weld steel.
(1)	21. Weld aluminum and stainless steel.
	F. ASSEMBLY AND RIGGING
(1)	22. Rig rotary-wing aircraft.
(2)	23. Rig fixed-wing aircraft.
(2)	24. Check alignment of structures.
(3)	25. Assemble aircraft components, including flight control surfaces.
(3)	26. Balance, rig, and inspect movable primary and secondary flight control surfaces.
(3)	27. Jack aircraft.
	G. AIRFRAME INSPECTION
(3)	28. Perform airframe conformity and airworthiness inspections.

II. AIRFRAME SYSTEMS AND COMPONENTS

Teaching level	
	A. AIRCRAFT LANDING GEAR SYSTEMS
(3)	29. Inspect, check, service, and repair landing gear, retraction systems, shock struts, brakes, wheels, tires, and steering systems.
	B. HYDRAULIC AND PNEUMATIC POWER SYSTEMS
(2)	30. Repair hydraulic and pneumatic power systems components.
(3)	31. Identify and select hydraulic fluids.
(3)	32. Inspect, check, service, troubleshoot, and repair hydraulic and pneumatic power systems.
	C. CABIN ATMOSPHERE CONTROL SYSTEMS
(1)	33. Inspect, check, troubleshoot, service, and repair heating, cooling, air conditioning, pressurization systems, and air cycle machines.
(1)	34. Inspect, check, troubleshoot, service, and repair heating, cooling, air-conditioning, and pressurization systems.
(2)	35. Inspect, check, troubleshoot, service and repair oxygen systems.
	D. AIRCRAFT INSTRUMENT SYSTEMS
(1)	36. Inspect, check, service, troubleshoot, and repair electronic flight instrument systems and both mechanical and electrical heading, speed, altitude, temperature, pressure, and position indicating systems to include the use of built-in test equipment.
(2)	37. Install instruments and perform a static pressure system leak test.
	E. COMMUNICATION AND NAVIGATION SYSTEMS
(1)	38. Inspect, check, and troubleshoot autopilot, servos and approach coupling systems.
(1)	39. Inspect, check, and service aircraft electronic communication and navigation systems, including VHF passenger address interphones and static discharge devices, aircraft VOR, ILS, LORAN, Radar beacon transponders, flight management computers, and GPWS.
(2)	40. Inspect and repair antenna and electronic equipment installations.

II. AIRFRAME SYSTEMS AND COMPONENTS—Continued

Teaching level	
	F. AIRCRAFT FUEL SYSTEMS
(1)	41. Check and service fuel dump systems.
(1)	42. Perform fuel management transfer, and defueling.
(1)	43. Inspect, check, and repair pressure fueling systems.
(2)	44. Repair aircraft fuel system components.
(2)	45. Inspect and repair fluid quantity indicating systems.
(2)	46. Troubleshoot, service, and repair fluid pressure and temperature warning systems.
(3)	47. Inspect, check, service, troubleshoot, and repair aircraft fuel systems.
	G. AIRCRAFT ELECTRICAL SYSTEMS
(2)	48. Repair and inspect aircraft electrical system components; crimp and splice wiring to manufacturers' specifications; and repair pins and sockets of aircraft connectors.
(3)	49. Install, check, and service airframe electrical wiring, controls, switches, indicators, and protective devices.
(3)	50.a. Inspect, check, troubleshoot, service, and repair alternating and direct current electrical systems.
(1)	50.b. Inspect, check, and troubleshoot constant speed and integrated speed drive generators.
	H. POSITION AND WARNING SYSTEMS
(2)	51. Inspect, check, and service speed and configuration warning systems, electrical brake controls, and anti-skid systems.
(3)	52. Inspect, check, troubleshoot, and service landing gear position indicating and warning systems.
	I. ICE AND RAIN CONTROL SYSTEMS
(2)	53. Inspect, check, troubleshoot, service, and repair airframe ice and rain control systems.
	J. FIRE PROTECTION SYSTEMS
(1)	54. Inspect, check, and service smoke and carbon monoxide detection systems.
(3)	55. Inspect, check, service, troubleshoot, and repair aircraft fire detection and extinguishing systems.

[Amdt. 147–2, 35 FR 5535, Apr. 3, 1970, as amended by Amdt. 147–5, 57 FR 28960, June 29, 1992]

APPENDIX D TO PART 147—POWERPLANT CURRICULUM SUBJECTS

This appendix lists the subjects required in at least 750 hours of each powerplant curriculum, in addition to at least 400 hours in general curriculum subjects.

The number in parentheses before each item listed under each subject heading indicates the level of proficiency at which that item must be taught.

I. POWERPLANT THEORY AND MAINTENANCE

Teaching level	
	A. RECIPROCATING ENGINES
(1)	1. Inspect and repair a radial engine.
(2)	2. Overhaul reciprocating engine.
(3)	3. Inspect, check, service, and repair reciprocating engines and engine installations.
(3)	4. Install, troubleshoot, and remove reciprocating engines.
	B. TURBINE ENGINES
(2)	5. Overhaul turbine engine.
(3)	6. Inspect, check, service, and repair turbine engines and turbine engine installations.
(3)	7. Install, troubleshoot, and remove turbine engines.
	C. ENGINE INSPECTION
(3)	8. Perform powerplant conformity and air worthiness inspections.

II. POWERPLANT SYSTEMS AND COMPONENTS

Teaching level	
	A. ENGINE INSTRUMENT SYSTEMS
(2)	9. Troubleshoot, service, and repair electrical and mechanical fluid rate-of-flow indicating systems.
(3)	10. Inspect, check, service, troubleshoot, and repair electrical and mechanical engine temperature, pressure, and r.p.m. indicating systems.
	B. ENGINE FIRE PROTECTION SYSTEMS
(3)	11. Inspect, check, service, troubleshoot, and repair engine fire detection and extinguishing systems.
	C. ENGINE ELECTRICAL SYSTEMS
(2)	12. Repair engine electrical system components.
(3)	13. Install, check, and service engine electrical wiring, controls, switches, indicators, and protective devices.
	D. LUBRICATION SYSTEMS
(2)	14. Identify and select lubricants.
(2)	15. Repair engine lubrication system components.
(3)	16. Inspect, check, service, troubleshoot, and repair engine lubrication systems.
	E. IGNITION AND STARTING SYSTEMS
(2)	17. Overhaul magneto and ignition harness.
(2)	18. Inspect, service, troubleshoot, and repair reciprocating and turbine engine ignition systems and components.
(3)	19.a. Inspect, service, troubleshoot, and repair turbine engine electrical starting systems.
(1)	19.b. Inspect, service, and troubleshoot turbine engine pneumatic starting systems.
	F. FUEL METERING SYSTEMS
(1)	20. Troubleshoot and adjust turbine engine fuel metering systems and electronic engine fuel controls.
(2)	21. Overhaul carburetor.
(2)	22. Repair engine fuel metering system components.
(3)	23. Inspect, check, service, troubleshoot, and repair reciprocating and turbine engine fuel metering systems.
	G. ENGINE FUEL SYSTEMS
(2)	24. Repair engine fuel system components.
(3)	25. Inspect, check, service, troubleshoot, and repair engine fuel systems.

II. POWERPLANT SYSTEMS AND COMPONENTS—Continued

Teaching level	
	H. INDUCTION AND ENGINE AIRFLOW SYSTEMS
(2)	26. Inspect, check, troubleshoot, service, and repair engine ice and rain control systems.
(1)	27. Inspect, check, service, troubleshoot and repair heat exchangers, superchargers, and turbine engine airflow and temperature control systems.
(3)	28. Inspect, check, service, and repair carburetor air intake and induction manifolds.
	I. ENGINE COOLING SYSTEMS
(2)	29. Repair engine cooling system components.
(3)	30. Inspect, check, troubleshoot, service, and repair engine cooling systems.
	J. ENGINE EXHAUST AND REVERSER SYSTEMS
(2)	31. Repair engine exhaust system components.
(3)	32.a. Inspect, check, troubleshoot, service, and repair engine exhaust systems.
(1)	32.b. Troubleshoot and repair engine thrust reverser systems and related components.
	K. PROPELLERS
(1)	33. Inspect, check, service, and repair propeller synchronizing and ice control systems.

II. POWERPLANT SYSTEMS AND COMPONENTS—Continued

Teaching level	
(2)	34. Identify and select propeller lubricants.
(1)	35. Balance propellers.
(2)	36. Repair propeller control system components.
(3)	37. Inspect, check, service, and repair fixed-pitch, constant-speed, and feathering propellers, and propeller governing systems.
(3)	38. Install, troubleshoot, and remove propellers.
(3)	39. Repair aluminum alloy propeller blades.
	L. UNDUCTED FANS
(1)	40. Inspect and troubleshoot unducted fan systems and components.
	M. AUXILIARY POWER UNITS
(1)	41. Inspect, check, service, and troubleshoot turbine-driven auxiliary power units.

(Sec. 6(c), Dept. of Transportation Act; 49 U.S.C. 1655(c))

[Amdt. 147–2, 35 FR 5535, Apr. 3, 1970, as amended by Amdt. 147–5, 57 FR 28961, June 29, 1992]