

**Florida Department of Education  
Curriculum Framework**

**Program Title:** Aviation Airframe Mechanics  
**Program Type:** Career Preparatory  
**Career Cluster:** Transportation, Distribution and Logistics

**Career Certificate Program – Career Preparatory**

|                            |   |   |
|----------------------------|---|---|
| Program Number             | T640300   |   |
| CIP Number                 | 0647060703  |   |
| Grade Level                | 30, 31  |   |
| Standard Length            | 1,350 hours   |   |
| Teacher Certification      | Refer to the <b>Program Structure</b> section   |   |
| CTSO                       | SkillsUSA   |   |
| SOC Codes (all applicable) | 49-3011 – Aircraft Mechanics and Service Technicians  |   |
| CTE Program Resources      | <a href="http://www.fldoe.org/academics/career-adult-edu/career-tech-edu/program-resources.stml">http://www.fldoe.org/academics/career-adult-edu/career-tech-edu/program-resources.stml</a> |   |
| Basic Skills Level         | Computation (Mathematics): 10   | Communications (Reading Language Arts): 9 |

**Purpose**

The purpose of this program is to prepare students for employment or advanced training in the commercial and general aviation industry. Instruction is designed to prepare students for Federal Aviation Administration (FAA) license examinations for Airframe ratings. Federal Aviation Regulation (FAR) Part 147 identifies minimum requirements for AMT schools. Any changes to the FAA-approved course content must be approved in advance. This program prepares students for employment as an Aviation Maintenance General Technician, and an Aviation Airframe Maintenance Technician.

This program focuses on broad, transferable skills, stresses understanding of all aspects of the aviation maintenance industry, and demonstrates elements of the industry such as planning, management, finance, technical and production skills, underlying principles of technology, labor issues, community issues, and health, safety, and environmental issues.

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Transportation, Distribution and Logistics career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of the Transportation, Distribution and Logistics career cluster.

**Additional Information** relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

## **Program Structure**

This program is a planned sequence of instruction consisting of two occupational completion points. The Aviation Maintenance General Technician (AMT0705) course is the core course.

This program is comprised of courses which have been assigned course numbers in the SCNS (Statewide Course Numbering System) in accordance with Section 1007.24 (1), F.S. Career and Technical credit shall be awarded to the student on a transcript in accordance with Section 1001.44 (3) (b), F.S.

To teach the course(s) listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the postsecondary program structure:

| OCP | Course Number | Course Title                               | Teacher Certification | Length    | SOC Code |
|-----|---------------|--|-----------------------|-----------|----------|
| A   | AMT0705       | Aviation Maintenance General Technician    | AIR MECH @7 7G        | 450 hours | 49-3011  |
| B   | AMT0765       | Aviation Maintenance Airframe Technician 1 |                       | 450 hours | 49-3011  |
|     | AMT0766       | Aviation Maintenance Airframe Technician 2 |                       | 450 hours |          |

## **National Standards**

Industry or National Standards corresponding to the standards and/or benchmarks for the Aircraft Airframe Mechanics program can be found using the following link:

<http://www.gpo.gov/fdsys/pkg/CFR-2012-title14-vol3/pdf/CFR-2012-title14-vol3-part147-appC.pdf>

## **Common Career Technical Core** – Career Ready Practices

Career Ready Practices describe the career-ready skills that educators should seek to develop in their students. These practices are not exclusive to a Career Pathway, program of study, discipline or level of education. Career Ready Practices should be taught and reinforced in all career exploration and preparation programs with increasingly higher levels of complexity and expectation as a student advances through a program of study.

1. Act as a responsible and contributing citizen and employee.
2. Apply appropriate academic and technical skills.
3. Attend to personal health and financial well-being.
4. Communicate clearly, effectively and with reason.
5. Consider the environmental, social and economic impacts of decisions.
6. Demonstrate creativity and innovation.
7. Employ valid and reliable research strategies.
8. Utilize critical thinking to make sense of problems and persevere in solving them.
9. Model integrity, ethical leadership and effective management.
10. Plan education and career path aligned to personal goals.
11. Use technology to enhance productivity.
12. Work productively in teams while using cultural/global competence.

## **Standards**

After successfully completing this program, the student will be able to perform the following:

- 01.0 Perform basic aircraft drawing skills.
- 02.0 Demonstrate aircraft weight and balance skills.
- 03.0 Perform ground operations and servicing duties.
- 04.0 Demonstrate mathematical skills.
- 05.0 Maintain forms and records.
- 06.0 Apply principles of basic physics.
- 07.0 Demonstrate the use of maintenance publications.
- 08.0 Demonstrate appropriate communication skills.
- 09.0 Demonstrate employability skills as an Aviation Maintenance General Technician.
- 10.0 Maintain aircraft fluid lines and fittings.
- 11.0 Perform aircraft materials and processes skills.
- 12.0 Perform cleaning and corrosion-control operations.
- 13.0 Perform basic electricity skills.
- 14.0 Interpret mechanic privileges and limitations.
- 15.0 Maintain wood structures.
- 16.0 Perform aircraft covering.
- 17.0 Apply aircraft finishes.
- 18.0 Repair sheet-metal and non-metallic structures.
- 19.0 Perform and identify proper welding.
- 20.0 Perform assembly and rigging.
- 21.0 Perform airframe inspection.
- 22.0 Maintain aircraft landing-gear systems.
- 23.0 Maintain hydraulic and pneumatic power systems.
- 24.0 Maintain cabin atmosphere control systems.
- 25.0 Maintain aircraft instrument systems.
- 26.0 Maintain communication and navigation systems.
- 27.0 Inspect and repair aircraft fuel systems.
- 28.0 Inspect and repair aircraft electrical systems.
- 29.0 Inspect and repair position and warning systems.
- 30.0 Maintain ice and rain control systems.
- 31.0 Inspect and repair aircraft fire-protection systems.
- 32.0 Demonstrate knowledge of Federal Aviation Administration Airframe licensing requirements.
- 33.0 Demonstrate employability skills for an Aviation Maintenance Airframe Technician (AMT) with an FAA Airframe rating.
- 34.0 Demonstrate an understanding of entrepreneurship related to opportunities in Aviation Airframe Maintenance occupations.

Florida Department of Education  
 Student Performance Standards

**Program Title:** Aviation Airframe Mechanics  
**Career Certificate Program Number:** T640300

**Course Number:** AMT0705  
**Occupational Completion Point:** A  
**Aviation Maintenance General Technician – 450 Hours – SOC Code 49-3011**

**Course Description:**

The Aviation Maintenance General Technician course prepares students for entry into the aviation industry. Students explore career opportunities and requirements of a professional aviation mechanic. Students study basic electricity, aircraft drawing, weight, balance, fluid lines, fittings, materials, processes, operations, services, cleaning, corrosion-control, math, forms, records, basic physics, maintenance publications, communication, and employability skills.

| CTE Standards and Benchmarks  | FAA FAR Part 147       |
|---|------------------------|
| 01.0 Perform basic aircraft drawing skills.--The student will be able to:                                       |                        |
| 01.01 Use aircraft drawings, symbols, and system schematics.  | App. B, B, 7. Level 2  |
| 01.02 Draw sketches of repairs and alterations.   | App. B, B, 8. Level 3  |
| 01.03 Use blueprint information.  | App. B, B, 9. Level 3  |
| 01.04 Use graphs and charts.  | App. B, B, 10. Level 3 |
| 02.0 Demonstrate aircraft weight and balance skills.--The student will be able to:                              |                        |
| 02.01 Weigh aircraft.   | App. B, C, 11. Level 2 |
| 02.02 Perform complete weight-and-balance check and record data.  | App. B, C, 12. Level 3 |
| 02.03 Properly configure aircraft for weighing and capable of setting up and using weighing equipment.          |                        |
| 03.0 Perform ground operations and servicing duties.--The student will be able to:                              |                        |
| 03.01 Start, ground operate, move, service, and secure aircraft and identify typical ground-operations hazards. | App. B, G, 20. Level 2 |
| 03.02 Identify and select fuels.  | App. B, G, 21. Level 2 |
| 03.03 Comply with prescribed shop and personal safety procedures.   |                        |
| 04.0 Demonstrate mathematical skills.--The student will be able to:   |                        |
| 04.01 Extract roots and raise numbers to a given power.   | App. B, H, 24. Level 3 |

| <b>CTE Standards and Benchmarks</b> |  | <b>FAA FAR Part 147</b> |
|-------------------------------------|--|-------------------------|
| 04.02                               | Determine areas and volumes of various geometrical shapes by solving problems for volume, weight, area, circumference, and perimeter measurements for rectangles, squares, and cylinders.  | App. B, H, 25. Level 3  |
| 04.03                               | Solve ratio, proportion, and percentage problems.  | App. B, H, 26. Level 3  |
| 04.04                               | Perform algebraic operations involving addition, subtraction, multiplication, and division of positive and negative numbers.   | App. B, H, 27. Level 3  |
| 05.0                                | Maintain forms and records.--The student will be able to:  |                         |
| 05.01                               | Write descriptions of work performed including aircraft discrepancies and corrective actions using typical aircraft maintenance records.   | App. B, I, 28. Level 3  |
| 05.02                               | Complete required maintenance forms, records, and inspection reports.  | App. B, I, 29. Level 3  |
| 06.0                                | Apply principles of basic physics.--The student will be able to:   |                         |
| 06.01                               | Use and understand the principles of simple machines; sound, fluid, and heat dynamics; basic aerodynamics; aircraft structures; and theory of flight.  | App. B, J, 30. Level 2  |
| 06.02                               | Understand molecular action as a result of temperature extremes, chemical reaction, and moisture content.  |                         |
| 06.03                               | Draw conclusions or make inferences from data.   |                         |
| 06.04                               | Identify health-related problems that may result from exposure to work-related chemicals and hazardous materials and know the proper precautions required for handling such materials.   |                         |
| 06.05                               | Understand pressure measurement in terms of PSI, inches of mercury, and KPA.   |                         |
| 07.0                                | Demonstrate the use of maintenance publications.--The student will be able to:   |                         |
| 07.01                               | 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. | App. B, K, 31. Level 3  |
| 07.02                               | Read technical data.   | App. B, K, 32. Level 3  |
| 08.0                                | Demonstrate appropriate communication skills.-The student will be able to:   |                         |
| 08.01                               | Describe the importance of clear and concise writing.  |                         |
| 08.02                               | Write logical and understandable statements or phrases to accurately complete forms/invoices commonly used in business and industry.   |                         |
| 08.03                               | Read and understand graphs, charts, diagrams, and tables commonly used in this industry/occupation area.   |                         |
| 08.04                               | Read and follow written and oral instructions.   |                         |
| 08.05                               | Answer and ask questions coherently and concisely.   |                         |
| 08.06                               | Read critically by recognizing assumptions and implications and by evaluating ideas.   |                         |
| 08.07                               | Demonstrate appropriate telephone/communication skills.  |                         |

| <b>CTE Standards and Benchmarks</b> |   | <b>FAA FAR Part 147</b> |
|-------------------------------------|---|-------------------------|
| 09.0                                | Demonstrate employability skills as an Aviation Maintenance General Technician.--The student will be able to: |                         |
| 09.01                               | Conduct a job search.   |                         |
| 09.02                               | Secure information about a job.   |                         |
| 09.03                               | Identify documents that may be required when applying for a job position.                                     |                         |
| 09.04                               | Complete a job-application form correctly.  |                         |
| 09.05                               | Demonstrate job-interview skills.   |                         |
| 09.06                               | Exhibit punctuality, initiative, courtesy, loyalty, and honesty.  |                         |
| 09.07                               | Identify appropriate responses to criticism from employer, supervisor, or other employees.                    |                         |
| 09.08                               | Identify work habits for getting and keeping a job.   |                         |
| 09.09                               | Explain how to make job changes.  |                         |
| 09.10                               | Explain the purpose of the Federal Law as recorded in (29 CFR-1910.1200).                                     |                         |
| 10.0                                | Maintain aircraft fluid lines and fittings.--The student will be able to:                                     |                         |
| 10.01                               | Fabricate and install rigid and flexible fluid lines and fittings.  | App. B, D, 13. Level 3  |
| 10.02                               | Utilize proper personal safety procedures for fluid lines and fittings.                                       |                         |
| 11.0                                | Perform aircraft materials and processes skills.--The student will be able to:                                |                         |
| 11.01                               | Identify and select appropriate nondestructive testing methods.   | App. B, E, 14. Level 1  |
| 11.02                               | Perform dye penetrant, eddy current, ultrasonic, and magnetic particle inspections.                           | App. B, E, 15. Level 2  |
| 11.03                               | Perform basic heat-testing processes.   | App. B, E, 16. Level 1  |
| 11.04                               | Identify and select aircraft hardware and materials.  | App. B, E, 17. Level 3  |
| 11.05                               | Inspect and check welds.  | App. B, E, 18. Level 3  |
| 11.06                               | Perform precision measurements.   | App. B, E, 19. Level 3  |
| 11.07                               | Perform safety-wiring techniques.   |                         |
| 12.0                                | Perform cleaning and corrosion-control operations.--The student will be able to:                              |                         |
| 12.01                               | Identify and select cleaning materials.   | App. B, G, 22. Level 3  |
| 12.02                               | Identify and utilize appropriate equipment for cleaning and corrosion control.                                |                         |
| 12.03                               | Observe appropriate personal safety procedures for corrosive chemicals.                                       |                         |

| CTE Standards and Benchmarks  | FAA FAR Part 147       |
|---|------------------------|
| 12.04 Inspect, identify, remove, and treat aircraft corrosion and perform aircraft cleaning. Understand metal strength limitations when removing corrosion.                 | App. B, G, 23. Level 3 |
| 13.0 Perform basic electricity skills.--The student will be able to:  |                        |
| 13.01 Troubleshoot electrical systems.  |                        |
| 13.02 Calculate and measure capacitance and inductance.   | App. B, A, 1. Level 2  |
| 13.03 Calculate and measure electrical power.   | App. B, A, 2. Level 2  |
| 13.04 Measure voltage, current, resistance, and continuity.   | App. B, A, 3. Level 3  |
| 13.05 Determine the relationship of voltage, current, and resistance in electrical circuits.  | App. B, A, 4. Level 3  |
| 13.06 Read and interpret aircraft electrical-circuit diagrams, including solid-state devices and logic functions.   | App. B, A, 5. Level 3  |
| 13.07 Inspect and service batteries.  | App. B, A, 6. Level 3  |
| 13.08 Utilize proper electrical safety procedures.  |                        |
| 14.0 Interpret mechanic privileges and limitations.--The student will be able to:   |                        |
| 14.01 Exercise mechanic privileges within the limitations prescribed by Part 65 of this chapter.  | App. B, L, 33. Level 3 |
| 14.02 Identify the information in Federal Aviation Regulations (FAR) Part 65 pertaining to eligibility for Aviation Maintenance Technician (AMT) certification and ratings. |                        |
| 14.03 Identify the FAA requirements that must be satisfied in order to display the FAA Airframe and Powerplant license.   |                        |

**Florida Department of Education  
Student Performance Standards**

**Course Number: AMT0765**  
**Occupational Completion Point: B (1 of 2)**  
**Aviation Maintenance Airframe Technician 1 – 450 Hours – SOC Code 49-3011**

**Course Description:**

The Aviation Maintenance Airframe Technician 1 course is designed to build on the skills and knowledge students learned in the Aviation Maintenance General Technician course. Students explore career opportunities and requirements of a professional aviation mechanic. Students study wood structures, aircraft covering, finishes, metallic and non-metallic surfaces, basic welding, assembly, rigging, airframe inspection, landing gear, hydraulic and pneumatic systems, atmosphere control, aircraft instruments, communication, and navigation systems.

| <b>CTE Standards and Benchmarks</b>   | <b>FAA FAR Part 147</b>   |
|---|---------------------------|
| 15.0 Maintain wood structures.--The student will be able to:  |                           |
| 15.01 Service and repair wood structures.   | App. C, I, A, 1. Level 1  |
| 15.02 Identify wood defects.  | App. C, I, A, 2. Level 1  |
| 15.03 Inspect wood structures.  | App. C, I, A, 3. Level 1  |
| 16.0 Perform aircraft covering.--The student will be able to:   |                           |
| 16.01 Select and apply fabric and fiberglass covering materials.                                      | App. C, I, B, 4. Level 1  |
| 16.02 Inspect, test, and repair fabric and fiberglass.  | App. C, I, B, 5. Level 1  |
| 17.0 Apply aircraft finishes.--The student will be able to:   |                           |
| 17.01 Apply trim, letters, and touch-up paint.  | App. C, I, C, 6. Level 1  |
| 17.02 Identify and select aircraft finishing materials.   | App. C, I, C, 7. Level 2  |
| 17.03 Apply finishing materials.  | App. C, I, C, 8. Level 2  |
| 17.04 Inspect finishes and identify defects.  | App. C, I, C, 9. Level 2  |
| 17.05 Demonstrate an understanding of common safety practices dealing with paints and solvents.       |                           |
| 18.0 Repair sheet-metal and non-metallic structures.--The student will be able to:                    |                           |
| 18.01 Select, install, and remove special fasteners for metallic, bonded, and composite structures.   | App. C, I, D, 10. Level 2 |
| 18.02 Inspect bonded structures.  | App. C, I, D, 11. Level 2 |
| 18.03 Inspect, test, and repair fiberglass, plastics, honeycomb, composite, and laminated primary and | App. C, I, D, 12. Level 2 |

| CTE Standards and Benchmarks   | FAA FAR Part 147           |
|--|----------------------------|
| secondary structures.  |                            |
| 18.04 Inspect, check, service, and repair windows, doors, and interior furnishings.  | App. C, I, D, 13. Level 2  |
| 18.05 Inspect and repair sheet-metal structures.   | App. C, I, D, 14. Level 3  |
| 18.06 Install conventional rivets.   | App. C, I, D, 15. Level 3  |
| 18.07 Form, lay out, and bend sheet metal.   | App. C, I, D, 16. Level 3  |
| 19.0 Perform and identify proper welding.--The student will be able to:  |                            |
| 19.01 Weld magnesium and titanium.   | App. C, I, E, 17. Level 1  |
| 19.02 Solder stainless steel.  | App. C, I, E, 18. Level 1  |
| 19.03 Fabricate tubular structures.  | App. C, I, E, 19. Level 1  |
| 19.04 Solder, braze, gas-weld, and arc-weld steel.   | App. C, I, E, 20. Level 2  |
| 19.05 Weld aluminum and stainless steel.   | App. C, I, E, 21. Level 1  |
| 20.0 Perform assembly and rigging.--The student will be able to:   |                            |
| 20.01 Rig rotary-wing aircraft.  | App. C, I, F, 22. Level 1  |
| 20.02 Rig fixed-wing aircraft.   | App. C, I, F, 23. Level 2  |
| 20.03 Check alignment of structures.   | App. C, I, F, 24. Level 2  |
| 20.04 Assemble aircraft components, including flight control surfaces.   | App. C, I, F, 25. Level 3  |
| 20.05 Balance, rig, and inspect movable primary and secondary flight control structures.   | App. C, I, F, 26. Level 3  |
| 21.0 Perform airframe inspection.--The student will be able to:  |                            |
| 21.01 Perform aircraft conformity and airworthiness inspections.   | App. C, I, G, 28. Level 3  |
| 22.0 Maintain aircraft landing gear systems.--The student will be able to:   |                            |
| 22.01 Jack aircraft.   |                            |
| 22.02 Inspect, check, service, and repair landing gear, retraction systems, shock struts, brakes, wheels, tires, and steering systems. | App. C, II, A, 29. Level 3 |
| 22.03 Utilize proper safety procedures and equipment when working on aircraft with electrical or hydraulic power on.                   |                            |
| 22.04 Utilize proper safety procedures when working on landing gear struts or wheel and tire assemblies.                               |                            |
| 23.0 Maintain hydraulic and pneumatic power systems.--The student will be able to:   |                            |
| 23.01 Repair hydraulic and pneumatic power system components.  | App. C, II, B, 30. Level 2 |

| CTE Standards and Benchmarks  | FAA FAR Part 147           |
|---|----------------------------|
| 23.02 Identify and select hydraulic fluids.   | App. C, II, B, 31. Level 3 |
| 23.03 Inspect, check, service, troubleshoot, and repair hydraulic and pneumatic power systems.  | App. C, II, B, 32. Level 3 |
| 24.0 Maintain cabin atmosphere control systems.--The student will be able to:   |                            |
| 24.01 Inspect, check, troubleshoot, service, and repair heating, cooling, air-conditioning, pressurization systems, and air-cycle machines.   | App. C, II, C, 33. Level 1 |
| 24.02 Inspect, check, troubleshoot, service, and repair heating, cooling, air-conditioning, and pressurization systems.   | App. C, II, C, 34. Level 1 |
| 24.03 Inspect, check, troubleshoot, service and repair oxygen systems.  | App. C, II, C, 35. Level 2 |
| 25.0 Maintain aircraft instrument systems.--The student will be able to:  |                            |
| 25.01 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.   | App. C, II, D, 36. Level 1 |
| 25.02 Install instruments and perform a static pressure-system leak test.   | App. C, II, D, 37. Level 2 |
| 26.0 Maintain communication and navigation systems.--The student will be able to:   |                            |
| 26.01 Inspect, check, and troubleshoot autopilot, servos, and approach coupling systems.  | App. C, II, E, 38. Level 1 |
| 26.02 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. | App. C, II, E, 39. Level 1 |
| 26.03 Inspect and repair antenna and electronic equipment installations.  | App. C, II, E, 40. Level 2 |

**Course Number: AMT0766**

**Occupational Completion Point: B (2 of 2)**

**Aviation Maintenance Airframe Technician 2 – 450 Hours – SOC Code 49-3011**

**Course Description:**

The Aviation Maintenance Airframe Technician 2 course is designed to build on the skills and knowledge students learned in the Aviation Maintenance Airframe Technician 1 course. Students explore career opportunities and requirements of a professional aviation mechanic. Students study aircraft fuel, electrical, position, warning, ice and rain control, fire-protection, FAA Airframe licensing requirements, employability skills, and entrepreneurship.

| CTE Standards and Benchmarks  | FAA FAR Part 147            |
|---|-----------------------------|
| 27.0 Inspect and repair aircraft fuel systems.--The student will be able to:  |                             |
| 27.01 Check and service fuel-dump systems   | App. C, II, F, 41. Level 1  |
| 27.02 Perform fuel-management transfer, re-fueling, and de-fueling  | App. C, II, F, 42. Level 1  |
| 27.03 Inspect, check, and repair pressure fuel systems  | App. C, II, F, 43. Level 1  |
| 27.04 Repair aircraft fuel-system components.   | App. C, II, F, 44. Level 2  |
| 27.05 Inspect and repair fluid quantity-indicating systems.   | App. C, II, F, 45. Level 2  |
| 27.06 Troubleshoot, service, and repair fluid pressure and temperature warning systems.   | App. C, II, F, 46. Level 2  |
| 27.07 Inspect, check, service, troubleshoot, and repair aircraft fuel systems.  | App. C, II, F, 47. Level 3  |
| 28.0 Inspect and repair aircraft electrical systems.--The student will be able to:  |                             |
| 28.01 Repair and inspect aircraft electrical system components; crimp and splice wiring to manufacturers' specifications; and repair pins and sockets of aircraft connectors. | App. C, II, G, 48. Level 2  |
| 28.02 Install, check, and service airframe electric wiring, controls, switches, indicators, and protective devices.   | App. C, II, G, 49. Level 3  |
| 28.03 Inspect, check, troubleshoot, service, and repair alternating and direct current electrical systems.  | App. C, II, G, 50a. Level 3 |
| 28.04 Inspect, check, and troubleshoot constant and integrated speed- drive generators.   | App. C, II, G, 50b. Level 1 |
| 29.0 Inspect and repair position and warning systems.--The student will be able to:   |                             |
| 29.01 Inspect, check, and service speed and configuration warning systems, electrical brake controls, and antiskid systems.   | App. C, II, H, 51. Level 2  |
| 29.02 Inspect, check, troubleshoot, and service landing gear position- indicating and warning systems.  | App. C, II, H, 52. Level 3  |
| 30.0 Maintain ice and rain control systems.--The student will be able to:   |                             |
| 30.01 Inspect, check, troubleshoot, service, and repair airframe ice and rain control systems.  | App. C, II, I, 53. Level 2  |

| CTE Standards and Benchmarks  | FAA FAR Part 147           |
|---|----------------------------|
| 31.0 Inspect and repair aircraft fire-protection systems.--The student will be able to:   |                            |
| 31.01 Inspect, check, and service smoke and carbon monoxide detection systems.  | App. C, II, J, 54. Level 1 |
| 31.02 Inspect, check, service, troubleshoot, and repair aircraft fire detection and extinguishing systems.  | App. C, II, J, 55. Level 3 |
| 32.0 Demonstrate knowledge of Federal Aviation Administration Airframe licensing requirements.--The student will be able to:                            |                            |
| 32.01 Explain the requirements for obtaining FAA authorization to take the FAA Airframe examinations.   |                            |
| 33.0 Demonstrate employability skills for an Aviation Maintenance Airframe Technician (AMT) with an FAA Airframe rating.--The student will be able to:  |                            |
| 33.01 Conduct a job search for an AMT with FAA Airframe rating position.  |                            |
| 33.02 Secure information about the requirements for an AMT with FAA Airframe rating in a particular firm.   |                            |
| 33.03 Identify documents that may be required when applying for an AMT with FAA Airframe rating position.   |                            |
| 33.04 Complete a job-application form correctly.  |                            |
| 33.05 Demonstrate competency in job-interview techniques.   |                            |
| 33.06 Identify or demonstrate appropriate responses to criticism from employer, supervisor, or other employees.   |                            |
| 33.07 Identify or adopt acceptable work habits.   |                            |
| 33.08 Demonstrate knowledge of how to make job changes appropriately.   |                            |
| 33.09 Demonstrate acceptable employee health habits.  |                            |
| 33.10 Demonstrate knowledge of the Federal Law as recorded in (29 CFR-1910.1200).   |                            |
| 34.0 Demonstrate an understanding of entrepreneurship related opportunities in Aviation Airframe Maintenance occupations.--The student will be able to: |                            |
| 34.01 Define entrepreneurship.  |                            |
| 34.02 Describe the importance of entrepreneurship to Aviation Airframe Maintenance occupations.   |                            |
| 34.03 List the advantages and disadvantages of Aviation Airframe Maintenance business ownership.  |                            |
| 34.04 Identify the risks involved in ownership of an Aviation Airframe Maintenance business.  |                            |
| 34.05 Identify the necessary personal characteristics of a successful Aviation Airframe Maintenance business owner.                                     |                            |

## Additional Information

### Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Classroom, shop, and laboratory activities are an integral part of this program. FAR Section 147.21(e) requires teaching of at least 50 percent of the curriculum in the shop or laboratory. These activities include instruction in the use of safety procedures, tools, equipment, materials, and processes found in the industry. Equipment and supplies should be provided to enhance hands-on experiences for students in the chosen occupation.

### Special Notes

Required FAA exams include GENERAL written, oral, and practical; AIRFRAME written, oral, and practical; and POWERPLANT written, oral, and practical. The only way a person can get authorization to take these examinations is to (1) graduate from an approved school or (2) obtain permission from the FAA to take the test based on prior experience on certified aircraft. Schools cannot grant permission (FAA FAR, Part 65 and Part 147, Subpart C 147.31).

Since an Aviation Maintenance Technician School (AMTS) is certified and inspected by the FAA, satisfaction of FAR Part 147 requirements should be the primary concern of an AMTS. When local and state educational requirements conflict with the FAA's regulation of an AMTS, those requirements must be resolved to satisfy FAR Part 147. In other words, FAA standards take precedence over other requirements. The FAA specifies minimum hours required and encourages schools to exceed minimum standards for the curriculum. The course content specified by the FAA may not be lowered.

"FAA FAR Part 147" identifies standards required by the FAA. Minimum teaching levels expected by the FAA also appear:

- Level 1:** knowledge of general principles
- Level 2:** knowledge of general principles and limited practical application
- Level 3:** knowledge of general principles with a high degree of practical application and hands-on skill levels according to FAA FAR Part 147: For subjects taught at Level 3, all special tools required to meet "return to service" standards must be in satisfactory working condition, properly calibrated/tested, and of the proper kind for the purpose for which they are intended. Tools should include an adequate supply of special tools appropriate to the ratings and curriculum. If students are required to provide hand tools, then the school should list the specific tools with the curriculum and provide a copy of this list to the students. Shop equipment and special tools should be maintained in good working order and be in a condition for safe operation.

All tools and equipment should be maintained in good working order and be in a condition for safe operation. The types of tools and equipment required for Aviation General, Airframe, and Powerplant teaching include the ones listed below:

Common hand tools, portable tools, precision tools, machine tools, torqueing tools, shop equipment and machinery, specialized tools and equipment, airframe structures, aircraft, airframes, powerplants, propellers, and components of this equipment

FAA FAR Part 147 states: Each certified Aviation Maintenance Technician School shall provide facilities, equipment, and material equal to the standards currently required for the issue of the certificate and rating that it holds.

Refer to FAA FAR Part 147 and industry publications for more information about required levels of proficiency, hours of instruction, and updates to occupational titles and training requirements. Keeping pace with the standards of industry and maintaining a high quality of training requires ongoing linkages with industry and FAA representatives.

### **Career and Technical Student Organization (CTSO)**

SkillsUSA is the intercurricular career and technical student organization(s) providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

### **Cooperative Training – OJT**

On-the-job training is appropriate but not required for this program. Whenever offered, the rules, guidelines, and requirements specified in the OJT framework apply.

### **Basic Skills**

In a Career Certificate Program offered for 450 hours or more, in accordance with Rule 6A-10.040, F.A.C., the minimum basic skills grade levels required for postsecondary adult career and technical students to complete this program are: Computation (Mathematics) and Communications (Language and Reading 9). These grade level numbers correspond to a grade equivalent score obtained on a state designated basic skills examination.

Adult students with disabilities, as defined in Section 1004.02, Florida Statutes, may be exempted from meeting the Basic Skills requirements (Rule 6A-10.040). Students served in exceptional student education (except gifted) as defined in s. 1003.01, F.S., may also be exempted from meeting the Basic Skills requirement. Each school district and Florida College System Institution must adopt a policy addressing procedures for exempting eligible students with disabilities from the Basic Skills requirement as permitted in Section 1004.91.

### **Accommodations**

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Note: postsecondary curriculum and regulated secondary programs cannot be modified.

**Additional Resources**

For additional information regarding articulation agreements, Bright Futures Scholarships, Fine Arts/Practical Arts Credit and Equivalent Mathematics and Equally Rigorous Science Courses please refer to:

<http://www.fldoe.org/academics/career-adult-edu/career-tech-edu/program-resources.shtml>