



2019-2020 Florida Job Growth Grant Fund Workforce Training Grant Proposal

Proposal Instructions: The Florida Job Growth Grant Fund Proposal (this document) must be completed and signed by an authorized representative of the entity applying for the grant. Please read the proposal carefully as some questions may require a separate narrative to be completed. If additional space is needed, attach a word document with your entire answer.

Entity Information

Name of Entity: Manatee Technical College (School District of Manatee County)

Federal Employer Identification Number (if applicable): [REDACTED]

Primary Contact Name: Doug Wagner

Title: Deputy Superintendent of Business Services and Operations, School District of Manatee County

Mailing Address: 215 Manatee Avenue West

Bradenton, FL 34205

Phone Number: 941.708.8770 x 41218

Email: wagnerd@manateeschools.net

Secondary Contact Name: Dr. Valerie Viands

Title: Director, Manatee Technical College

Phone Number: 941.751.7900 x 1001

Workforce Training Grant Eligibility

Pursuant to 288.101, F.S., the Florida Job Growth Grant Fund was created to promote economic opportunity by improving public infrastructure and enhancing workforce training. This includes workforce training grants to support programs offered at state colleges and state technical centers.

Eligible entities must submit proposals that:

- Support programs and associated equipment at state colleges and state technical centers.
- Provide participants with transferable and sustainable workforce skills applicable to more than a single employer.
- Are offered to the public.
- Are based on criteria established by the state colleges and state technical centers.
- Prohibit the exclusion of applicants who are unemployed or underemployed.

1. Program Requirements:

(If additional space is needed, attach a word document with your entire answer.)

Each proposal must include the following information describing how the program satisfies the eligibility requirements listed on page 1.

A. Provide the title and a detailed description of the proposed workforce training.

Aviation Maintenance Technician (Aviation Airframe Mechanic and Aviation Powerplant Mechanic)
See attached for detailed description.

B. Describe how this proposal supports programs at state colleges or state technical centers.

See attached.

C. Describe how this proposal provides participants transferable, sustainable workforce skills applicable to more than a single employer.

See attached.

D. Describe how this proposal supports a program(s) that is offered to the public?

See attached.

E. Describe how this proposal is based on criteria established by the state colleges and state technical centers.

See attached.

F. Does this proposal support a program(s) that will not exclude unemployed or underemployed individuals?

Yes No

See attached.

- G.** Describe how this proposal will promote economic opportunity by enhancing workforce training. Please include the number of program completers anticipated to be created from the proposed training. Further, please include the economic impact on the community, region, or state and the associated metrics used to measure the success of the proposed training.

See attached.

2. Additional Information:

(If additional space is needed, attach a word document with your entire answer.)

- A.** Is this an expansion of an existing training program? Yes No
 If yes, please provide an explanation for how the funds from this grant will be used to enhance the existing program.

See attached.

- B.** Does the proposal align with Florida's Targeted Industries? Yes No
 ([View Florida's Targeted Industries here.](#))

If yes, please indicate the specific targeted industries with which the proposal aligns.
 If no, with which industries does the proposal align?

Aviation/Aerospace and Defense/Homeland Security

- C.** Does the proposal align with an occupation(s) on the Statewide Demand Occupations List and/or the Regional Demand Occupations List? Yes No
 ([View Florida's Demand Occupations Lists here.](#))

If yes, please indicate the specific occupation(s) with which the proposal aligns.
 If no, with which occupation does the proposal align?

Aircraft Mechanics and Service Technicians (SOC Code 49-3011)

- D. Indicate how the training will be delivered (e.g., classroom-based, computer-based, other).
 If in-person, identify the location(s) (e.g., city, campus, etc.) where the training will be available.
 If computer-based, identify the targeted location(s) (e.g. city, county, statewide, etc.) where the training will be available.

See attached for description of training.
 Training location will be the Sarasota-Bradenton International Airport.

- E. Indicate the number of anticipated annual enrolled students and completers in the proposed program.

For the first year, the average number of anticipated enrolled students is 20 and number of completers, 18. The maximum number of students per cohort is 25 per FAA Part 147. MTC anticipates the program will attract enough students for a minimum of two cohorts per year, with the possibility of running day and evening classes or having two starts per year (August and January).

- F. Indicate the length of program (e.g., quarters, semesters, weeks, etc.), including anticipated beginning and ending dates.

8/5/2021 6/25/2023
 Begin Date: _____ End Date: _____

2,350 clock hours (two years) to complete both programs (industry recommendation). See attached.

- G. Describe the plan to support the sustainability of the program after grant completion.

State workforce development fund dollars, student tuition and fees, support of the Airport Authority (rent abatement), and donations from original equipment manufacturers (OEMs). See attached.

- H. Identify any certifications, degrees, etc. that will result from the completion of the program. Please include the Classification of Instructional Programs (CIP) code and the percent of completers in each code, corresponding with Section E.

Federal Aviation Administration (FAA) license in Aviation Maintenance Technician with Airframe and/or Powerplant ratings. CIP codes are 47.0607 and 47.0608. Percent of completers 90%. See attached.

- I. Does this project have a local match amount? Yes No

If yes, please describe the entity providing the match and the amount. (Do not include in-kind.)

Sarasota Manatee Airport Authority \$1,725,000
 See attached.

J. Provide any additional information or attachments to be considered for the proposal.

The Airport Authority is building the AMTS; they want an AMTS at the airport. If MTC doesn't receive the funding to be able to take it over, the airport will find another entity to do so. See attached Letter of Understanding with the Airport Authority, letters of support, program and budget details, site plans, floor plans and perspectives for the Aviation Maintenance Technician School at the Sarasota-Bradenton International Airport.

3. Program Budget

(If additional space is needed, attach a word document with your entire answer.)

Estimated Costs and Sources of Funding: Include all applicable workforce training costs and other funding sources available to support the proposal.

1.) Total Amount Requested \$ 9,530,000.00
 Florida Job Growth Grant Fund

A. Other Workforce Training Project Funding: Sources:

City/County	\$ _____
Private Sources	\$ 330,240.00
Other (grants, etc.)	\$ 1,725,000. ⁰⁰
Total Other Funding	\$ 2,055,240.⁰⁰

Airport Authority

Please Specify: _____

B. Workforce Training Project Costs:

Equipment	\$ 2,266,500.00
Personnel	\$ 800,100.00
Facilities	\$ 7,827,865.00
Tuition	\$ _____
Training Materials	\$ 100,000.00
Other	\$ 590,775. ⁰⁰
Total Project Costs	\$ 11,585,240.00

Rent, Utilities, FAA Certification

Please Specify: _____

Note: The total amount requested must be calculated by subtracting the total other workforce training project funding sources in A. from the total workforce training project costs in B.

- C. Provide a detailed budget narrative, including the timing and steps necessary to obtain the funding, how equipment purchases will be associated with the training program, if applicable, and any other pertinent budget-related information.

See attached.

4. Approvals and Authority

(If additional space is needed, attach a word document with your entire answer.)

- A. If entity is awarded grant funds based on this proposal, what approvals must be obtained before it can execute a grant agreement with the Florida Department of Economic Opportunity (e.g. approval of a board, commission or council)?

Approval of the School Board of Manatee County

-
- B. If approval of a board, commission, council or other group is needed prior to execution of an agreement between the entity and the Florida Department of Economic Opportunity:
 - i. Provide the schedule of upcoming meetings for the group for a period of at least six months.
 - ii. State whether entity is willing and able to hold special meetings, and if so, upon how many days' notice.

2020: 1/14, 1/28, 2/11, 2/25, 3/10, 4/14, 4/28, 5/12, 5/26, 6/9, 6/23
The board can hold special meetings.

-
- C. Attach evidence that the undersigned has all necessary authority to execute this proposal on behalf of the entity. This evidence may take a variety of forms, including but not limited to: a delegation of authority, citation to relevant laws or codes, policy documents, etc.
-

I, the undersigned, do hereby certify that I have express authority to sign this proposal on behalf of the above-described entity and to the best of my knowledge, that all data and information submitted in proposal is truthful and accurate and no material fact has been omitted.

Name of Entity: Manatee Technical College, School District of Manatee County

Name and Title of Authorized Representative: Cynthia Saunders

Representative Signature: See next page.

Signature Date: 11/12/19

but not limited to a delegation of authority, citation to relevant laws or codes, policy documents, etc.

I, the undersigned, do hereby certify that I have express authority to sign this proposal on behalf of the above-described entity and to the best of my knowledge, that all data and information submitted in proposal is truthful and accurate and no material fact has been omitted.

Name of Entity: Manatee Technical College, School District of Manatee County

Name and Title of Authorized Representative: Cynthia Saunders, Superintendent, School District of Manatee County, AND David Miner, Chair, School Board of Manatee County

Superintendent Signature: _____

Signature Date: 11/12/19

School Board Chair Signature: _____

Signature Date: 11/12/19



2019-2020 Florida Job Growth Grant Fund
Workforce Training Grant Proposal

Entity Information:

Name of Entity: **Manatee Technical College (School District of Manatee County)**

Federal Employer Identification Number: [REDACTED]

Primary Contact Name: **Doug Wagner**

Title: **Deputy Superintendent of Business Services & Operations, School District of Manatee County**

Mailing Address: **215 Manatee Avenue W., Bradenton, FL 34205**

Phone Number: **941.708.8770 x 41218** *Email:* wagnerd@manateeschools.net

Secondary Contact Name: **Dr. Valerie Viands**

Title: **Director, Manatee Technical College**

Mailing Address: **6305 E. State Road 70, Bradenton, FL 34203**

Phone Number: **941.751.7900 x 1010** *Email:* viandsv@manateeschools.net

1. Program Requirements:

A. Title and detailed description of the proposed workforce training:

Manatee Technical College (MTC) proposes to offer career certificate workforce training in **Aviation Airframe Mechanic** and **Aviation Powerplant Mechanic**. In these career certificate programs, participants will prepare for employment in the commercial and general aviation industry to fill a growing need in the Suncoast Workforce Region, the state of Florida, the US, and across the globe. The training will have three occupational completion points to prepare participants for careers ranging from entry-level aviation maintenance general technician to **Aviation Maintenance Technician (AMT) with Airframe and/or Powerplant FAA ratings**. Aviation Maintenance Technician is a High-Skill High-Wage job on the State and Regional Demand Occupations Lists. To provide the proposed workforce training, the college will seek certification from the Federal Aviation Administration (FAA) through Title 14 Code of Federal Regulations (CFR) Part 147 to offer the programs within the framework of an Aviation Maintenance Technician School (AMTS). The training site for the MTC AMTS will be located at the Sarasota-Bradenton International Airport (SRQ).

B. Describe how this proposal supports programs at state colleges or state technical centers.

Funding of this proposal will allow Manatee Technical College to add Aviation Airframe Mechanics (T640300) and Aviation Powerplant Mechanics (T640400) career certificate programs to enhance its program offerings in the transportation field and its line-up of over 50 career certificate programs. This proposal supports MTC in its ability to meet its mission to produce highly skilled individuals and resourceful leaders through collaborative education to meet the ever-changing needs of our communities and the workforce. The vision of MTC is to be recognized as a leader in transforming people's lives through quality education. MTC trains students in occupations relevant to the infrastructure and future growth of Florida Workforce Region 18 (Manatee and Sarasota counties) and the state of Florida. Thousands of students have entered the workforce and enhanced their personal and professional lives through the education they received at MTC. Local business and industry leaders contribute to the success of Manatee Technical College in meeting its mission, as is evidenced in the strong support being offered by the SRQ Airport.

- C. *Describe how this proposal provides participants transferable, sustainable workforce skills applicable to more than a single employer.*

This proposal will provide participants with **transferable and sustainable workforce skills applicable to more than a single employer in Aviation/Aerospace/Defense targeted industries** in Manatee County, FL Workforce Region 18, Florida, and the nation. Participants prepare to earn a **Federal Aviation Administration license with broad applicability** to employers in the aviation industry. Positions for these occupations are available at airports, fixed base operators (FBO), maintenance and repair operations (MRO), aviator/pilot schools, and manufacturers or suppliers in the aviation, aerospace and defense industries.

Participants will prepare for employment in the commercial and general aviation industry, including preparation for Federal Aviation Administration (FAA) license examinations for Airframe and Powerplant ratings. Completion will prepare students for employment as **aviation maintenance general technician, aviation airframe maintenance technician**, The SOC Code is 49-3011 – Aircraft Mechanics and Service Technicians.

This program offers a sequence of courses that provides participants **transferable, sustainable workforce skills**, coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in aviation/aerospace/defense industries. It provides technical skill proficiency and includes competency-based applied learning that contributes to **sustainable workforce skills**: the academic knowledge, higher-order

reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, occupation-specific skills, and knowledge of all aspects of the transportation career cluster. This program offers a **broad foundation of knowledge and skills** including sheet metal, bonded and composite structures, welding, assembly and rigging, hydraulics and pneumatics, instrumentation, communication and navigation systems, braking and steering systems, electrical and fuel systems, reciprocating and turbine engines, lubrication systems, ignition and starting systems, cooling and exhaust systems, propellers, and fire protection systems.

The content includes but is not limited to providing students with a foundation of knowledge and technically oriented experiences in the study of aircraft maintenance and service technology and its **application in aviation, aerospace, and defense industries**. The content and activities will also include the study of enterprise systems, safety, quality, and leadership skills. This program focuses on **transferable skills**, and it stresses understanding and demonstration of the technological tools, machines, instruments, materials, processes and systems in business and industry. Many of the skills, tools, machines, instruments, materials, processes and systems learned will be **transferable to other occupations**, such as Industrial Electronics Technician (47.0105), Industrial Machinery Mechanic (47.0303), Automotive Service Technician (49-3023).

D. Describe how this proposal support a program(s) that is offered to the public.

Manatee Technical College is part of the School District of Manatee County, a public school-district, and as such its programs are offered to the public. MTC is a fully accredited, public postsecondary technical education and training center. MTC abides by all state and federal nondiscrimination laws.

E. Describe how this proposal is based on criteria established by the state colleges and state technical centers.

This proposal is based on the criteria MTC established to make decisions to offer workforce-training programs. Criteria include State and Regional Demand Occupations Lists, High Skill/High Wage Occupations, Enterprise Florida Inc. Targeted Industries, Bureau of Labor Market Statistics Employment Projections, annual openings and average growth rate, help wanted online data, formal/informal surveys, employer input, and information obtained from the Bradenton Area Economic Development Corporation, CareerSource Suncoast, industry associations, and respected news media.

Aviation Maintenance Technician is a High-Skill High-Wage job on the State and Regional Demand Occupations Lists. The 2019-20 Florida Statewide Demand Occupations List shows 1,294 annual openings for aircraft mechanics and service technicians (SOC Code

493011), and it is an occupation in an EFI Targeted Industry (Aviation, Aerospace and Defense). The 2017 entry hourly wage was \$16.11; the mean hourly wage was \$26.95.

In an online search at this moment in time, 365 aircraft mechanic jobs are available in Florida (Indeed.com), and ZipRecruiter is showing 55 openings for aircraft mechanics in Sarasota alone with salaries ranging between \$38,000 - \$53,000 a year.

The Sarasota-Bradenton International Airport (SRQ) has been experiencing record breaking growth, both in the number of travelers and the number of new destinations. Thus far this year, 1.39 million passengers have traveled through SRQ. In September alone SRQ had a record 125,361 travelers. Passenger counts have increased 40% over 2018. The airport is adding 11 new destinations starting service between now and the end of the year. The growth of the region's airport is a huge indicator of the promise of employment opportunities for program graduates in the aviation industry locally and across the state.

According to a 2019 Statewide Aviation Economic Impact Study by the Florida Department of Transportation, aviation has an annual total economic impact of \$175 billion in the state of Florida. Per the same economic impact study, the Sarasota-Bradenton International Airport employs 12,130 people per year with a payroll exceeding \$475 million and has an annual total economic impact of over \$1.33 billion.

The Wall Street Journal (September 5, 2019) ranked aviation maintenance technicians 125th among 800 of the most promising careers of the next decade. Based on data from the U.S. Department of Labor, the median salary for aircraft mechanics and service technicians was \$69,920 in 2018 with 11,800 projected annual openings through 2028.

According to a national 2017 MRO (maintenance, repair, and overhaul) survey, "by 2027 in the US, demand for maintenance technicians is forecasted to outstrip supply by 9%." The survey goes on to say that over the next decade the number of maintenance techs eligible to retire will outpace the number of new techs entering the field. The survey finds that executives "are worried about an anticipated shortfall in the number of adequately trained mechanics at a time when the global airline fleet is expanding and modernizing." (<https://www.oliverwyman.com/content/oliver-wyman/ow-v2/en/our-expertise/insights/2017/apr/mro-survey-2017.html>)

According to the Aviation Technician Education Council (ATEC) 2018 Pipeline Report, "mechanics continue to retire faster than they are being replaced." The report projects a decrease of 5% in the next 15 years. The report states, "New entrants make up 2% of the population annually, while 30% of the workforce is at or near retirement age." According to ATEC: Boeing forecasts 769,000 technicians will be needed worldwide by

2038, 193,000 of those in North America. Airbus estimates the commercial fleet will require 630,000 new technicians by 2037. <https://www.atec-amt.org/workforce.html>

- F. *Does this proposal support a program(s) that will not exclude unemployed or underemployed individuals?* **YES.**

The majority of students attending Manatee Technical College are unemployed or underemployed. They are attending MTC for the improved possibilities of better employment and career opportunities.

- G. *Describe how this proposal will promote economic opportunity by enhancing workforce training. Please include the number of jobs anticipated to be created from the proposed training. Further, please include the economic impact on the community, region, or state and the associated metrics used to measure the success of the proposed training.*

This proposal will promote economic opportunity by offering workforce training for an occupation that is **High-Skill, High-Wage** and **on the Demand Occupations List**. After 9/11, many Aviation Maintenance Technician Schools closed their doors. As the age of the Aircraft Mechanic and Service Technician workforce continues to rise, experienced certified technicians are retiring and leaving a gap that is creating a demand that is difficult to fill with the small number of FAA-certified AMT Schools throughout the country. In the state of Florida, only seven public postsecondary AMT Schools exist at this time in Broward, Melbourne, Jacksonville, Pensacola, Miami, Tallahassee, and Naples. The closest private school is in Clearwater. Creating a publicly funded AMTS along the Central West Coast would fill a great need in Florida. According to the Statewide Demand Occupations List, there are **1,294 annual openings** for Aircraft Mechanics and Service Technicians. In Workforce Region 18, there are **over 50 aviation/aerospace employers**, including SAFRAN Labinal Power Systems, Sarasota Bradenton International Airport, Rectrix Commercial Aviation, Radiant Power, Verde GSE, and Hobart Ground Systems. The **economic impact** in this region alone will be **over \$2,000,000 per year**. The metrics used to measure the success of the training will be **90% completion rate** with a **95% graduate industry certification rate**—FAA Airframe and/or Powerplant ratings—to validate technical skill attainment—and a **graduate placement rate of 95%**.

2. Additional Information:

- A. *Is this an expansion of an existing training program?*

While training in Aviation Mechanics and Powerplant will be **new** programs for MTC, adding the Aviation training programs will be an **expansion** of the Transportation, Distribution and Logistics programs offered by Manatee Technical College at this time, which include Automotive Collision Technology, Automotive Service Technology, and Marine Service Technologies.

- B. *Does the proposal align with Florida's Targeted Industries? YES. If yes, please indicate the targeted industries with which the proposal aligns.*

The proposed program aligns with the following targeted industries:

Aviation/Aerospace & Defense/Homeland Security

- C. *Does the proposal align with an occupation(s) on the Statewide Demand Occupations List and/or the Regional Demand Occupations List? YES. If yes, please indicate the occupation(s) with which the proposal aligns.*

The proposal aligns with **Aircraft Mechanics and Service Technicians** (SOC Code 493011), a High-Skill High-Wage occupation on the Statewide and Regional Demand Occupations Lists.

- D. *Indicate how the training will be delivered (e.g., classroom based, computer based, other). If in person, identify the location(s) (e.g., city, campus, etc.) where the training will be available.*

Manatee Technical College will deliver a combination of classroom-based, lab-based, computer-based and airfield-based training at the Sarasota-Bradenton International Airport. Labs will mimic environments found in the aviation industry. The site will be a satellite campus for MTC, specifically for the delivery of the Airframe and Powerplant programs. MTC will seek FAA-approval for the Aviation Maintenance Technician School (AMTS). The Airport Authority has agreed to design, plan, permit and construct the site and building for the AMTS. If this application is successful, part of this grant would be needed to help fund this cost.

- E. *Indicate the number of anticipated enrolled students and completers in the proposed program.*

For the first year, the average number per year of anticipated enrolled students is 20 and number of completers is 18. The maximum number of students per cohort is 25 per FAA Part 147. MTC anticipates the program will attract enough students for a minimum of two cohorts per year, with the possibility of running day and evening classes or having two starts per year (August and January).

- F. *Indicate the length of program (e.g. quarters, semesters, weeks, etc.) including anticipated beginning and ending dates.*

Both the Airframe and Powerplant programs share a common Core, which is 450 clock hours. To specialize in one or the other is an additional 900 clock hours, which equals a total of 1,350 clock-hours. To specialize in both (industry recommendation) is an additional 1,800 hours for a total of 2,350 clock-hours (two years, full-time). The anticipated start and end dates for the first class who completes both programs: Begin date: 8/5/2021 End date: 6/25/2023

- G. *Describe the plan to support the sustainability of the program after grant completion.*

State workforce development fund dollars, student tuition and fees, the continued support of the Airport Authority and donations from original equipment manufacturers (OEMs) will support the sustainability of the project. Smaller grants over the years can keep equipment up to date. This grant is needed to fund the building/site construction, initial equipment, accrediting and personnel costs for the start-up of the program. It takes three years for the school to receive workforce dollars for new program enrollment.

- H. *Identify any certifications, degrees, etc. that will result from the completion of the program. Please include the Classification of Instructional Programs (CIP) code and the percent of completers in each code, corresponding with Section E.*

For job growth in the region, it is imperative MTC offer industry standard training programs and opportunity for nationally recognized credentials. **Federal Aviation Administration (FAA) license in Aviation Maintenance Technician with Airframe and/or Powerplant ratings** will result from the completion of the program(s) and passing the FAA exam(s). All program completers will earn a certificate from Manatee Technical College. Credit will be awarded to students on a transcript in accordance with Florida Statute. The **CIP code** for the Aviation Airframe Mechanic program is 47.0607 and for Aircraft Powerplant Mechanic, it is 47.0608. Percent of completers is estimated at **90 percent**.

- I. *Does this project have a local match amount? YES. If yes, please describe the entity providing the match and the amount. (Do not include in-kind.)*

Sarasota-Bradenton Airport Authority (SRQ): \$1,725,000
 \$1,500,000 Construction of Site/Building
 \$225,000 First Three Years Rent Abatement

Student Tuition and Fees: \$330,240

(Yr 1 = \$118,840 + Yr 2 = \$211,400 = \$330,240)

Tuition = \$210,420 (\$131,400 per Cohort 1 July 1, 2021 – June 30, 2023 + \$78,840

Cohort 2 July 1, 2022 – June 30, 2023)

(Cohort 1 July 1, 2021 – June 30, 2023: tuition \$2.92/clock hour x 1,350 hours/year 1 = \$3942 x 20 = \$78,840; \$2.92 x 900 hours/year 2 x 20 = \$52,560)

Cohort 2 July 1, 2022 – June 30, 2023: tuition \$78,840/year 1

Materials/lab fees = \$120,000 within 2 years (\$2,000 x 60 students July 1, 2021 – June 30, 2023)

J. *Provide any additional information or attachments to be considered for the proposal.*

The Sarasota-Manatee Airport Authority is building the Aviation Maintenance Technician School; they want an AMTS at the airport. If MTC doesn't receive the funding to be able to take it over, the airport will find another entity to do so. MTC wants to be the one. Please see attached Letter of Understanding with the Airport Authority, letters of support, program and budget details, site plans, floor plans and perspectives for the Aviation Maintenance Technician School at the Sarasota-Bradenton International Airport.

3. Program Budget

Estimated Costs and Sources of Funding: Include all applicable workforce training costs and other funding sources available to support the proposal.

1.) Total Amount Requested	<u>\$ 9,530,000</u>
Florida Job Growth Grant Fund	
A. Other Workforce Training Project Funding Sources:	
Sarasota Bradenton Airport Authority	\$1,725,000
Student Tuition and Fees	\$ 330,240
Total Other Funding	\$2,055,240
B. Other Workforce Training Costs:	
Equipment	\$2,266,500
Personnel	\$ 800,100
Facilities Design/Construction	\$7,827,865
Facilities Rental	\$ 225,000
Facilities Utilities	\$ 245,775
Training Materials	\$ 100,000
Other (FAA AMTS certification)	\$ 120,000
Total Project Costs	\$11,585,240

Note: The total amount requested must be calculated by subtracting the total Other Workforce Training Project Funding Sources in A. from the total Workforce Training Project Costs in B.

- C. Provide a detailed budget narrative, including the timing and steps necessary to obtain the funding, how equipment purchases will be associated with the training program if applicable, and any other pertinent budget-related information.

Detailed Budget Narrative and Timing:

- **EQUIPMENT: \$2,266,500**
(order January 1, 2020 – December 31, 2022)
Equipment required for Aviation General, Airframe, and Powerplant FAA-approved training programs include: Common hand tools, portable tools, precision tools, machine tools, torquing tools, shop equipment and machinery, specialized tools and equipment, airframe structures, aircraft, airframes, power plants, propellers, and components of this equipment. (See attached list.) **\$2,016,500**
Furniture, fixtures and equipment needed to furnish classrooms and offices, such as desks, chairs, computers, tables, etc. **\$250,000**
- **PERSONNEL: \$800,100**
3 Instructors: Core, Airframe, Powerplant @ \$88,900 (salary & benefits) = \$266,700 per year x 1 year development (July 1, 2020 – June 30, 2021) + 2 years training (July 1, 2021 – June 30, 2023)
- **FACILITIES: \$8,298,640**
Design/Construction \$7,827,865 Airport Authority to build AMTS on SRQ property
Planning, Design and Permit \$1,339,050 (October 2019 – June 2020)
Construction of Site/Building, including hangar, classrooms, labs, and offices \$6,488,815 (July 1– December 30, 2020) (to reimburse Airport Authority minus match)
Rent \$225,000 First Three Years (\$75,000/Yr.) (January 1, 2021 – December 31, 2024)
Utilities \$245,775 Electricity only (January 1, 2021 – June 30, 2023)
- **TRAINING SUPPLIES & MATERIALS: \$100,000**
Cost of training supplies and materials required for an FAA-approved training program. (January 1, 2020 – June 30, 2022)
- **OTHER: \$120,000**
Cost to get the program approved as an Aircraft Maintenance Technician School with the FAA (January 1, 2020 – June 30, 2021)

Steps necessary to obtain funding: Upon receipt of award notification, MTC will request approval from the School Board to expend the Workforce Training Grant funds. In anticipation of the funds, MTC and the Board have been working with the Airport Authority to design the AMTS. The remainder of School Year 2019-20 and SY 2020-21 will be spent putting all the pieces in place. As soon as board approval has been received, MTC will attend a Federal Aviation Administration orientation in Tampa and begin work to meet the requirements of Title 14 of the Code of Federal Regulations (14 CFR part 147) to open an FAA-certified Aviation Maintenance Technician School (AMTS). Steps include hiring instructors, developing the curriculum, ordering equipment, continuing to work closely with the School District of Manatee County and the Airport Authority to construct a hangar, office space, and ramp on the Airport Authority property that meets the facilities requirements of the FAA and the school board, and passing inspection to meet all FAA rules and regulations. All other funding (student tuition and fees) will be a result of student enrollment in the program. MTC will begin accepting applications for enrollment in the spring of 2021 for an August 2021 start date. Students pay tuition and fees per semester. At the appropriate time during the program, MTC will collect from students the fees for FAA license exams.

4. Approvals and Authority

A. *If entity is awarded grant funds based on this proposal, what approvals must be obtained before it can execute a grant agreement with the Florida Department of Economic Opportunity (e.g., approval of a board, commission or council)?*

Approval of the Manatee County School Board.

B. *If approval of a board, commission, council or other group is needed prior to execution of an agreement between the entity and the Florida Department of Economic Opportunity:*

i. *Provide the schedule of upcoming meetings for the group for a period of at least six months.*

2019: 12/10; 2020: 1/7, 1/21, 2/11, 2/25, 3/10, 4/14, 4/28, 5/12, 5/26, 6/9, 6/23

ii. *State whether that group can hold special meetings, and if so, upon how many days' notice.*

The board can hold special meetings.

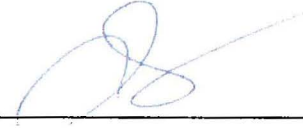
C. *Attach evidence that the undersigned has all the necessary authority to execute this proposal on behalf of the entity. This evidence may take a variety of forms, including*

but not limited to a delegation of authority, citation to relevant laws or codes, policy documents, etc.

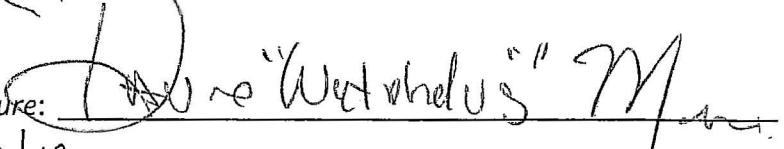
I, the undersigned, do hereby certify that I have express authority to sign this proposal on behalf of the above-described entity and to the best of my knowledge, that all data and information submitted in proposal is truthful and accurate and no material fact has been omitted.

Name of Entity: Manatee Technical College, School District of Manatee County

Name and Title of Authorized Representative: Cynthia Saunders, Superintendent, School District of Manatee County, AND David Miner, Chair, School Board of Manatee County

Superintendent Signature:  _____

Signature Date: 11/12/19

School Board Chair Signature:  _____

Signature Date: 11/12/19



SARASOTA
BRADENTON
INTERNATIONAL

LETTER OF UNDERSTANDING

THE FOLLOWING IS A "LETTER OF UNDERSTANDING" BETWEEN THE PARTIES NAMED BELOW. THIS DOCUMENT IS MEANT AS AN OUTLINE OF A PROPOSED GROUND LEASE WITH IMPROVEMENTS TRANSACTION AND IS INTENDED AS A MEANS OF FACILITATING THE PROPOSED TRANSACTION.

LANDLORD: SARASOTA MANATEE AIRPORT AUTHORITY;

TENANT: SCHOOL DISTRICT OF MANATEE COUNTY on behalf of MANATEE TECHNICAL COLLEGE;

PROPERTY: A PORTION OF THE "M-LOT" LOCATED AT 7990 15TH STREET EAST;

LEASE AREA: THE GROUND AREA OUTLINED IN RED AND ATTACHED HERETO;

TERM: 20 YEAR LEASE, WITH FOUR 5-YEAR RENEWALS;

LEASE COMMENCEMENT: UPON LEASE EXECUTION;

RENT COMMENCEMENT: THREE CALENDAR YEARS FOLLOWING LEASE EXECUTION AS TO THE GROUND RENT;

RENT: \$75,000 ANNUAL RENT OR \$6,250 PER MONTH (PLUS SALES TAX IF APPLICABLE) WITH ANNUAL INCREASE BASED ON ANY INCREASE IN THE CONSUMER PRICE INDEX (CPI) NOT TO EXCEED 3% ADJUSTED EVERY 3 YEARS;

TENANT BUYOUT: LANDLORD SHALL DESIGN, PERMIT AND CONSTRUCT AND TENANT SHALL REIMBURSE LANDLORD FOR THE COST OF THE IMPROVEMENT (WITH A DESIGN, PERMIT, BUILDING AND SITEWORK CONSTRUCTION CAP OF \$6,000,000);

REAL ESTATE TAXES: TENANT TO PAY DIRECTLY TO MANATEE COUNTY, IF APPLICABLE;

COMMON MAINTENANCE: TENANT TO PAY PRORATA SHARE OF INFRASTRUCTURE MAINTENANCE;

INSURANCE: TENANT TO CARRY/PROVIDE APPLICABLE PROPERTY AND LIABILITY INSURANCE NAMING LANDLORD AS CERTIFICATE HOLDER AND ADDITIONAL INSURED;

DELIVERY BY LANDLORD RESPONSIBILITIES: LANDLORD TO CONSTRUCT RAMP AREA AS SHOWN ON ATTACHED EXHIBIT AND HIGHLIGHTED IN YELLOW AND LANDLORD TO PROVIDE THE DESIGN AND PERMITTED PLANS FOR THE CONTEMPLATED PROJECT. FURTHERMORE, LANDLORD TO DELIVER BUILDING AND SITEWORK AS SHOWN ON THE EXHIBIT BASED ON THE ABOVE CONSTRUCTION CAP;

TENANT RESPONSIBILITIES: TENANT SHALL REIMBURSE LANDLORD UP TO \$4,500,000 OF LANDLORDS COST TO DESIGN/ PERMIT AND CONSTRUCT SITE AND BUILDING. TENANT WILL ALSO BE RESPONSIBLE FOR ANY ADDITIONAL BUILD-OUT/FF&E;

REPAIRS/ MAINTENANCE: TENANT RESPONSIBLE FOR ALL INTERIOR AND EXTERIOR BUILDING REPAIRS/REPLACEMENTS AND SITE MAINTENANCE/REPAIRS (NNN LEASE);

UTILITIES: UPON DELIVERY DATE, ALL UTILITY METERS AND CHARGES WILL BE TRANSFERRED TO THE TENANT;

SIGNAGE: LANDLORD TO VERIFY ALL SIGNAGE LOCATIONS. ALL TENANT SIGNAGE MUST BE SUBMITTED TO LANDLORD FOR APPROVAL PRIOR TO INSTALLATION. SIGNAGE COSTS AND INSTALLATION ARE THE RESPONSIBILITY OF THE TENANT;

LEASE PREPERATION: UPON EXECUTION OF THIS "LETTER OF UNDERSTANDING", LANDLORD SHALL PREPARE A FORMAL GROUND LEASE WITH IMPROVEMENTS AGREEMENT, WHICH SHALL BE SUBMITTED TO TENANT FOR REVIEW AND APPROVAL;

SCHEDULE: BOTH LANDLORD AND TENANT AGREE TO REVIEW THE LEASE AGREEMENT IN A TIMELY MANNER;

USE: TENANT SHALL OCCUPY AND USE THE PREMISES FOR AVIATION/AERONAUTICAL RELATED TRAINING AND EDUCATION;

BROKERS: TENANT AND LANDLORD ACKNOWLEDGE THAT NO REAL ESTATE BROKER(S) ARE INVOLVED IN THIS TRANSACTION AND THEREFORE NO COMMISSION/PAYMENT IS DUE TO ANY BROKER;

GENERAL –
ACKNOWLEDGMENT: THIS LETTER OF UNDERSTANDING IS A MEANS OF EXPEDITING A PROPOSED TRANSACTION AND IS NOT BINDING UPON EITHER PARTY. THE PARTIES UNDERSTAND THAT INFORMATION CONTAINED HEREIN IS AN OUTLINE OF THE TERMS AND CONDITIONS OF A LEASE AGREEMENT AND THAT THIS LETTER OF UNDERSTANDING MAY NOT INCLUDE ALL TERMS, CONDITIONS AND COVENANTS OF A LEASE AGREEMENT. ONLY THE FULL EXECUTION OF A LEASE AGREEMENT BY BOTH PARTIES SHALL BE BINDING AND MUST RECIEVE APPROVAL BY THE BOARD OF SARASOTA MANATEE AIRPORT AUTHORITY AND THE SCHOOL BOARD OF MANATEE COUNTY;

LANDLORD CONTRIBUTIONS: TENANT AND LANDLORD ACKNOWLEDGE CERTAIN LANDLORD CONTRIBUTIONS INCLUDING A PORTION OF THE COSTS FOR DESIGNING AND PERMITTING OF THE PROJECT, CONSTRUCTION OF SITE/BUILDING TOTALING \$1,500,000 AND ALSO THREE YEARS OF RENT ABATEMENT (\$225,000);

GRANT: LANDLORD RECOGNIZES THAT MANATEE TECHNICAL COLLEGE HAS APPLIED FOR AN ENTERPRISE FLORIDA DEPARTMENT OF ECONOMIC OPPORTUNITY JOB GROWTH FUND GRANT. FAILURE TO SECURE THE GRANT SHALL GIVE THE SCHOOL BOARD THE OPTION OF CANCELING THIS LETTER OF UNDERSTANDING AND THE SARASOTA MANATEE AIRPORT AUTHORITY SHALL BE FREE TO PURSUE OTHER PROVIDERS.

TENANT: [Signature] DATE: 12/12/19
School District of Manatee County by Superintendent Cynthia Saunders

[Signature] DATE: 12/12/19
School Board of Manatee County by Dave "Watchdog" Miner

LANDLORD: [Signature] DATE: 12-13-19
Sarasota Manatee Airport Authority



SARASOTA MANATEE AIRPORT AUTHORITY

COMMISSIONERS
Carlos Beruff
Doug Holder
Kristin Incrocci
Robert Spencer
John T. Stafford
Dr. Peter A. Wish

PRESIDENT, CEO
Fredrick J. Piccolo

srq-airport.com

October 2, 2019

Enterprise Florida and Department of Economic Opportunity

**Re: Florida Job Growth Grant Fund
Workforce Training Project**

Dear Enterprise Florida and Department of Economic Opportunity:

The Sarasota Manatee Airport Authority (SMAA) strongly supports the Manatee Technical College (MTC) application for a Florida Job Growth Grant to help fund a Workforce Training Project to open an Aviation Maintenance Technician School (AMTS) at the Sarasota Bradenton International Airport (SRQ).

The workforce training MTC plan addresses critical future workforce demands of SRQ and the needs of the region and entire aviation industry. The Boeing Airlines Pilot and Technicians Outlook for 2018-2037 publication estimates over 754,000 technicians needed worldwide. The United States Bureau of Labor Statistics reported the median salary for an Airframe and Powerplant (A&P) mechanic at \$62,020 annually. This school would not only supply trained mechanics to meet the local needs of the greater Tampa Bay region but provides worldwide economic opportunity for students in our community.

To remain competitive, it is imperative for MTC to have the resources to meet the need for certified aircraft mechanics at the region's airports with Federal Aviation Administration (FAA) ratings.

The SMAA has already begun design and will start construction of the needed hangar and classroom facilities with a scheduled completion in 2020. The SMAA has also agreed to assume \$1,500,000 of the cost and grant the school three years of rent abatement valued at \$180,000. The total contribution of the Airport Authority to this project is \$1,680,000.

Please give this application your highest consideration for funding. Thank you.

Sincerely,

A handwritten signature in cursive script, appearing to read 'Fredrick J. Piccolo'.

Fredrick J. Piccolo
President, Chief Executive Officer

PACESETTER INVESTORS
Lakewood Ranch Commercial
SunTrust Bank
Synovus Bank

ELITE INVESTOR
Hancock Whitney Bank

LEADERSHIP INVESTORS
Bank of America
Benderson Development Company, LLC
Blake Medical Center
Blalock Walters, P.A.
CenterState Bank
Element Commercial Construction
FELD Entertainment, Inc.
Fifth Third Bank of Florida
FPL
Harrod Properties, Inc.
Herald-Tribune Media Group
IMG Academy
Manatee Chamber of Commerce
MCR Health
Michael Saunders & Company
Sarasota Bradenton International Airport
SouthTech
TECO Peoples Gas
The Mosaic Company
University of South Florida, Sarasota-Manatee

TRUSTEE INVESTORS
Air Products & Chemicals, Inc.
Anna Maria Island Chamber of Commerce
Atlas Building Company
BDE Florida, LLC (Taco Bell)
Beall's Inc.
BMO Harris Bank, N.A.
Cadence Bank
Carr, Riggs & Ingram, LLC
Christopher, Smith, Leonard, Bristow & Stanell, P.A.
Conley Buick GMC
CORE Construction Services of Florida, LLC
Fawley Bryant Architecture
Florida Worldwide Citrus
Gulfcoast Community Foundation
Grimes Goebel Grimes Hawkins Gladfelder & Galvano, PL
Halfacre Construction Company
It Works!
LECOM
Manatee Healthcare System
Mauldin & Jenkins, LLC, CPA's
Miller Enterprises, Inc.
Palmetto Companies, Inc.
Pittsburgh Pirates
Shumaker, Loop & Kendrick, LLP
The Bank of Tampa
Tropicana Products
Vecenergy Resources
Willis A. Smith Construction

PARTNERS
Bradenton Area Convention & Visitors Bureau
Career Source Suncoast
City of Bradenton
City of Palmetto/Palmetto CRA
Manatee County Government
Manatee Technical College
Port Manatee
School District of Manatee County
Town of Longboat Key



Anna Maria • Bradenton • Bradenton Beach • Ellenton • Holmes Beach • Lakewood Ranch • Longboat Key • Palmetto • Parrish

October 7, 2019

Re: Florida Job Growth Grant Fund
Workforce Training Project

Dear Enterprise Florida and Department of Economic Opportunity:

The Bradenton Area Economic Development Corporation (EDC) strongly supports Manatee Technical College's (MTC) application for a Florida Job Growth Grant. The grant is needed to help fund a Workforce Training Project to open an Aviation Maintenance Technician School certified by the Federal Aviation Administration.

The region is home to over 50 employers in the Aviation, Aerospace Industry Sector, such as Radiant Power, Verde GSE, Hobart Ground Systems, and Safran Electrical Power to name a few. Job creation in 2020 is projected to be over 1700.

To aggressively recruit new companies and encourage the expansion of existing companies in aviation/aerospace, it is imperative to have the desired present and future talent pipeline. For this, we look to our valued partner, MTC to develop an Aviation Maintenance Technician School.

This specialized school will require an abundance of resources, to train individuals that are able to achieve the nationally recognized industry credentials required for this very desirable industry sector.

The EDC enthusiastically supports MTC's application for a Florida Job Growth Grant and respectfully requests this application be given the highest consideration for funding.

Sincerely,

Sharon Hillstrom
President & CEO

THINK GLOBAL. THINK BRADENTON AREA.

Lakewood Ranch at the McClure Center | 4215 Concept Court, Bradenton, FL 34211 | Phone +1.941.803.9030



Christy Cardillo
Chairman

Eric Troyer
*Vice Chair
Treasurer*

Ted Ehrlichman
President & CEO

September 26, 2019

Subject: Florida Job Growth Grant Fund-Workforce Training Project

Dear Enterprise Florida and Department of Economic Opportunity:

CareerSource Suncoast (LWDB #18) strongly supports the Manatee Technical College (MTC) application for a Florida Job Growth Grant to help fund a Workforce Training Project to open an Aviation Maintenance Technician School. Aircraft Mechanic and Service Technician is a High-Skill, High-Wage occupation on both the State and Regional Demand Occupations Lists with over 1,000 job openings per year in Florida.

The workforce training Manatee Technical College offers is critical in the Local Workforce Region #18 to provide employers with skilled, productive and competitive talent and to provide all individuals, including those with disabilities, with increased opportunities for self-sufficiency and high-skill, high-wage careers.

The MTC project completely supports the CareerSource Suncoast goal to enhance alignment and market responsiveness of workforce, education and economic development systems. The ability of Region 18 to attract and retain competitive businesses such as those in the targeted industry sector of Aviation/Aerospace & Defense/Homeland Security depends on this alignment and the ability of our regional technical colleges to provide the training for bright outlook and in-demand industries.

CareerSource Suncoast requests the EF/DEO's consideration to grant Manatee Technical College the funding necessary to open an Aviation Maintenance Technician School to meet our region's need for high-skills aircraft mechanic training.

A handwritten signature in black ink, appearing to read "Ted Ehrlichman", is written over a horizontal line.

President/CEO



Maura Howl
MANATEE TECHNICAL COLLEGE
5520 Lakewood Ranch Blvd.
Bradenton, FL 34211

Dear Ms. Howl,

Rectrix Aerodrome Centers Inc., @ SRQ is the largest FBO and MRO based at Sarasota Bradenton International Airport. As discussed, our sister company operates a maintenance company called, Rectrix MRO. The MRO is based in Massachusetts with a satellite in SRQ.

In SRQ, we require additional maintenance technicians. However our growth is hindered due to the lack of qualified applicants in the Manatee and Sarasota area. If we had qualified candidates, we would certainly construct additional hangar space in SRQ and hire these graduates at a significant pace. Our projections for the SRQ MRO fully staffed, is 30-40 full time mechanics within a five year timeframe. Currently, the owners of planes based in the area simply fly their aircraft to other areas of the country in order to have their required maintenance performed.

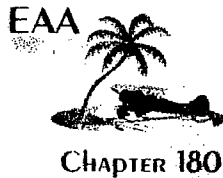
We support your initiative to base an A&P school in SRQ as there is no doubt the demand for qualified technicians is here and will only grow. These are well-paying jobs and your initiative would not only benefit the citizens, but the entire airport community as well as our company. The upside is enormous.

Sincerely,

Richard A. Cawley

CEO

RECTRIX COMMERCIAL AVIATION SERVICES INC.



Dr. Valerie Viands, Director
Manatee Technical College
6305 State Road 70 East
Bradenton, FL 34203

September 26, 2019

Dear Dr. Viands:

Experimental Aircraft Association Chapter 180 is sending this letter to express our support for your proposed aviation maintenance program and new facility at Sarasota – Bradenton International Airport. EAA Chapter 180's membership is comprised of many talented people with extensive backgrounds in aviation including construction of many homebuilt airplanes. We are all volunteers and have a rich 20 plus year history in our community of working with young people between 8 and 18 years old exposing them to aviation and opening their eyes to aviation careers. Our Young Eagles program through the generosity of our members has given hundreds of young people their first experience of flight. Many of our chapter members also have served as mentors through Teen Aircraft Factory of Manasota, Inc. by helping young people in our community learn technical and life skills through building airplanes.

Your proposed aviation program and new facility will be a great asset to our community and a local pathway to many of the young people we have and will continue to introduce to aviation careers. We look forward to a partnership with Manatee Technical College in this new and exciting venture.

A handwritten signature in black ink, appearing to read "Gary D Stevens". The signature is fluid and cursive, with a long horizontal line extending from the end of the name.

Gary D Stevens, President
EAA Chapter 180
7707 19th Ave NW
Bradenton, FL 34209

SRQ MAINTENANCE HANGARS

COST SUMMARY

11/5/2019

MTC PROGRAM COSTS:

12k Group III Hangar, 10k Group III Hangar, 24k Office/Lab/Classroom
Total 46k SF

SITE COSTS

SITE TOTAL \$ 1,548,000

MTC Proportional Site Costs @ 69% \$ 1,068,120

MTC = 46k (69%) Elite = 21k (31%)

BUILDINGS

	sf	cost/sf	
MTC Group III Hangar	12,000	\$ 96.68	\$ 1,160,160
MTC Group III Hangar	10,000	\$ 96.68	\$ 966,800
MTC Office/Admin	24,000	\$ 111.13	\$ 2,667,120
MTC Subtotal			\$ 3,633,920

SUBTOTAL BUILDINGS AND SITE \$ 4,702,040

CONTRACTOR GENERAL CONDITIONS 10% \$ 470,204

OVERHEAD & PROFIT 10% \$ 470,204

SUBTOTAL CONSTRUCTION \$ 5,642,448

RECOMMENDED DCOW CONTINGENCY 15% \$ 846,367.20

TOTAL CONSTRUCTION \$ 6,488,815

PLANNING, DESIGN, FFE, CA AND PERMIT

PLANNING, DESIGN, FFE, CA AND PERMIT TOTAL \$ 1,687,524

MTC Proportional Costs @ 69% \$ 1,164,392

RECOMMENDED SOFT COSTS CONTINGENCY 15% \$ 174,659

TOTAL PLANNING, DESIGN, FFE, CA AND PERMIT \$ 1,339,050

TOTAL PROJECT COST \$ 7,827,865

FFE	Cost
Airframe Certification / Structural Sheet Metal Assm. Certification kit	\$46,000
Aviation instructor box with tools	\$14,500
Aviation instructor desk- \$3,250 @ 3	\$9,750
QV Storage Cabinet- \$1,250 @ 4	\$5,000
Electricity trainer, system, and panel	\$70,000
Hydraulic systems trainer and fluid lines and fittings	\$11,500
Landing gear trainers	\$21,500
A/C systems and trainers	\$55,000
Oxygen system trainer	\$4,500
Cockpit instrumentation	\$15,000
Autopilot trainers	\$54,000
Avionics trainer	\$40,000
Fuel systems	\$32,000
Brake system	\$18,000
Ice & rain protection system	\$15,500
Fire detection	\$10,000
Safety wire box	\$2,000
Magneto tester with cabinet and starter kit	\$6,000
Cut-aways (dampener, hydraulic pump, actuator, gyro-altitude, generator, inverter)	\$6,500
Starter-generator, alternator, slick	\$4,000
Power plant and airframe tool cabinets/storage units, benches	\$71,000
Hydraulic floor press, drill press, belt-disc sander, kits and assorted tools	\$15,500
Airframe sheet metal mechanics kits, tools and supplies	\$42,250
Small Paint Booth (14x8x8)	\$18,000
Fire Detection System, and Extinguishing System, Mounted	\$33,400
12 Volt Dual Electrical Trainer	\$22,815
Pneumatic System Display	\$4,700
Oxygen System Display	\$5,200
Ice and Rain Protection Sys	\$16,185
Airconditioning & Heating Sys	\$32,380
Anit-Skid Brake System Trainer	\$18,428
Hydraulic Landing Gear System Trnr	\$13,415

Vapor Cycle Air-conditioning Training Board	\$14,000
Hydraulic Test Bench	\$90,000
Basic Electronic trainer, software, test equip, courseware	\$160,000
Forklift Used, 4 ton Hyster, Warranted	\$8,000
Work Bench for engine shop(12ea)	\$9,600
6" Swivel Vise, Wilton #746 (24 ea)	\$10,000
Vertical Band Saw with welder	\$20,000
Lathe, bench	\$12,000
Dust collector (Large)	\$5,300
Compressor, Rotary Screw 60 hp, 3 Phase with Associated equipment	\$60,000
Mill/Drill Machine	\$4,700
Aircraft Tug	\$8,000
Ground Power Unit	\$46,300
Aero-Tow	\$5,800
Pallet, Jack	\$900
Portable Degreaser Booth	\$7,000
Degreasing Tank (Parts washer)	\$2,500
Saw, Band for cutting Wood	\$4,200
Saw, reciprocating,	\$520
Drill, Press	\$2,400
Band Saw Cabinet	\$1,000
Bench grinder on Stand	\$860
40 Piece Tap and Die Set	\$1,250
Drill Bit Set, 60 piece,aircraft	\$1,000
Dust Collector	\$960
Dust Collector, Large	\$4,800
Welder, Saw Blades	\$1,080
Library Shelves, adjustable	\$3,400
Book truck for library (42Hx3W)	\$500
Work Benches /Airframe 12 ea	\$5,040
A&P Hydraulic Mule	\$3,600
Aircraft Jacks	\$4,800
Maule Tester	\$1,750
Aircraft scales on Rollers 1,000 pound Capacity	\$1,500

Table Saw 12" plus Blades	\$2,300
Joiner with Table Assy	\$1,000
Chop Saw, Wood	\$320
Tables for wood shop	\$3,600
Batteries, different varieties	\$4,500
Wood shop Sander floor model	\$1,560
Vise, wood	\$1,800
Hydrometer , P/N FR-1	\$225
Sheetmetal Brake 51 inch	\$3,000
Sheetmetal Shear 52 inch	\$2,200
Sheetmetal Box Brake	\$1,200
Sheetmetal Metal Notcher	\$585
Sheetmetal, Small forming roller (24")	\$450
Sheetmetal, Large forming roller(50")	\$1,400
Sheetmetal, Rotary Machine	\$400
Sewing machine, with Table	\$4,000
Cold storage floor freezer for composite material and DD rivets	\$700
Hydraulic Mule, to test Hydraulic Landing gear systems	\$19,000
2 Bottle Portable Oxy-Acetelone tanks with cart	\$800
Sanding Disc Station(wood)	\$1,100
2 nitrogen service carts	\$3,000
Aircraft Electronic Scales, for up to 30,000 pound aircraft.	\$6,000
Miller, Plasma Cutter	\$1,650
Hardness Tester	\$2,000
Lathe, small bench style to turn Armatures	\$1,500
Steam Cleaner/Pressure washer, Diesel Fired Burner	\$2,510
Tubing Bender, 1/4" to 5/8"	\$1,200
Surface Plate, Large with stand 3'-4'	\$4,400
Hoist, 5 Ton, Aircraft and Engine	\$9,600
Tool Room Shelving, Heavy Duty Storage racks (24"X96")	\$8,900
Tool Room Storage Safety cabinets	\$6,400
Janitorial Supply Cabinet	\$1,680
6"Steel Casters, fixed and swivel	\$10,500
Television Set for classroom 2ea and one for the lunch room 50"	\$8,100

Draft Cabinet to support 25 students	\$5,750
MagnaFlux Machine & Associated Equipment	\$43,465
Zyglo Machine	\$44,600
Eddy Current & Associated Eqp.	\$28,055
Ultra Sonic System & Associated Equipment	\$15,540
Battery Charger, Nickel Cadmium	\$13,425
Battery Charger 12V/24V	\$1,400
Glass Bead Booth	\$4,320
Surface Plate, Granite with 3x3 Stand	\$5,400
FAA, Airworthiness Directives for small and large aircraft (library)	\$1,400
Computers with Monitor (55ea)	\$82,500
Chairs, Classroom and library	\$4,800
Tables, for classroom, library and lunch room	\$10,800
MIG Welder	\$1,400
TIG Welder	\$2,700
Spot welder	\$1,600
ARC Welder	\$342
Metal Abrasive cut off saws (1 small and 1 large)	\$1,000
Arbor Press, Small	\$685
Hydraulic Press, Large 45 ton	\$5,000
Drill Press, Large Electronic variable	\$8,475
Media Blast, Siphon Feed	\$5,400
Media Blast, Pressure	\$11,000
Torque wrench tester, Proto#J6472 for 3/8" 25 to 250lbs	\$1,800
Torque Wrench tester 1/4" 5-50lbs Proto#J6470	\$1,300
Torques Wrench Tester 1/2" ProtoJ6476	\$1,460
Computed Radiography Equip	\$108,520
Small hand tools, aircraft hardware for the tool room to include such items as rivet guns, torque wrench, taps and dye sets, pneumatic tools to support 2200hrs of the FAA instructional curriculum. Included are publications and organizations memberships.	\$250,000
TOTAL FFE	\$2,016,500

**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 Program Structure section
CTSO	SkillsUSA
SOC Codes (all applicable)	49-3011 – Aircraft Mechanics and Service Technicians
CTE Program Resources	http://www.fldoe.org/academics/career-adult-edu/career-tech-edu/program-resources.stml
Basic Skills Level	Mathematics: 10 Language: 9 Reading: 10

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

CTE Standards and Benchmarks	FAA FAR Part 147
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 Write logical and understandable statements or phrases to accurately complete forms/invoices commonly used in business and industry.	
08.02 Read and understand graphs, charts, diagrams, and tables commonly used in this industry/occupation area.	
08.03 Read and follow written and oral instructions.	
08.04 Answer and ask questions coherently and concisely.	
08.05 Read critically by recognizing assumptions and implications and by evaluating ideas.	
08.06 Demonstrate appropriate telephone/communication skills.	
09.0 Demonstrate employability skills as an Aviation Maintenance General Technician.-The student will be able to:	

CTE Standards and Benchmarks	FAA FAR Part 147
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 Identify appropriate responses to criticism from employer, supervisor, or other employees.	
09.07 Identify work habits for getting and keeping a job.	
09.08 Explain how to make job changes.	
09.09 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 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 Calculate and measure capacitance and inductance.	App. B, A, 1. Level 2
13.02 Calculate and measure electrical power.	App. B, A, 2. Level 2
13.03 Measure voltage, current, resistance, and continuity.	App. B, A, 3. Level 3

CTE Standards and Benchmarks	FAA FAR Part 147
13.04 Determine the relationship of voltage, current, and resistance in electrical circuits.	App. B, A, 4. Level 3
13.05 Read and interpret aircraft electrical-circuit diagrams, including solid-state devices and logic functions.	App. B, A, 5. Level 3
13.06 Inspect and service batteries.	App. B, A, 6. Level 3
13.07 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.

CTE Standards and Benchmarks	FAA FAR Part 147
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 secondary structures.	App. C, I, D, 12. Level 2

CTE Standards and Benchmarks	FAA FAR Part 147
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
20.06 Jack aircraft.	App. C, I, F, 27. 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 Inspect, check, service, and repair landing gear, retraction systems, shock struts, brakes, wheels, tires, and steering systems.	App. C, II, A, 29. Level 3
22.02 Utilize proper safety procedures and equipment when working on aircraft with electrical or hydraulic power on.	
22.03 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
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

CTE Standards and Benchmarks	FAA FAR Part 147
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
31.0 Inspect and repair aircraft fire-protection systems.-The student will be able to:	

CTE Standards and Benchmarks	FAA FAR Part 147
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.	
34.06 Identify the business skills needed to operate an Aviation Airframe Maintenance business efficiently and effectively.	

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, torquing 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.

MyCareerShines is an interactive resource to assist students in identifying their ideal career and to enhance preparation for employment. Teachers are encouraged to integrate this resource into the program curriculum to meet the employability goals for each student. Access MyCareerShines by visiting: www.mycareershines.org.

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: Mathematics 10.0, Language 9.0, and Reading 10.0. 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(7), 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(3)(a), F.S., may also be exempted from meeting the Basic Skills requirement. Each school district and Florida College must adopt a policy addressing procedures for exempting eligible students with disabilities from the Basic Skills requirement as permitted in Section 1004.91(3), F.S.

Students who possess a college degree at the Associate of Applied Science level or higher; who have completed or are exempt from the college entry-level examination; or who have passed a state, national, or industry licensure exam are exempt from meeting the Basic Skills requirement (Rule 6A-10.040, F.A.C.) Exemptions from state, national or industry licensure are limited to the certifications listed on the Basic Skills and Licensure Exemption List which may be accessed from the CTE Program Resources page.

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.stml>

**Florida Department of Education
Curriculum Framework**

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

Career Certificate Program – Career Preparatory

Program Number	T640400
CIP Number	0647060801
Grade Level	30, 31
Standard Length	1,350 hours
Teacher Certification	Refer to the Program Structure section.
CTSO	SkillsUSA
SOC Codes (all applicable)	49-3011 – Aircraft Mechanics and Service Technicians
CTE Program Resources	http://www.fldoe.org/academics/career-adult-edu/career-tech-edu/program-resources.stml
Basic Skills Level	Mathematics: 10 Language: 9 Reading: 10

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 Powerplant 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	AMT0775	Aviation Maintenance Powerplant Technician 1		450 hours	49-3011
	AMT0776	Aviation Maintenance Powerplant 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 Perform basic reciprocating engine skills.
- 16.0 Perform basic turbine engine skills.
- 17.0 Perform engine inspection.
- 18.0 Maintain engine instrument systems.
- 19.0 Maintain engine fire-protection systems.
- 20.0 Maintain engine electrical systems.
- 21.0 Maintain lubrication systems.
- 22.0 Maintain ignition and starting systems.
- 23.0 Maintain fuel-metering systems.
- 24.0 Maintain engine fuel systems.
- 25.0 Maintain induction and engine airflow systems.
- 26.0 Maintain engine cooling systems.
- 27.0 Maintain engine exhaust and reverser systems.
- 28.0 Maintain aircraft propellers.
- 29.0 Maintain unducted fans.
- 30.0 Maintain auxiliary power units
- 31.0 Demonstrate knowledge of FAA Powerplant licensing requirements.
- 32.0 Demonstrate employability skills for an Aviation Maintenance Powerplant Technician (AMT) with an FAA Powerplant rating
- 33.0 Demonstrate an understanding of entrepreneurship opportunities in Aviation Powerplant Maintenance occupations.

Florida Department of Education
Student Performance Standards

Program Title: Aviation Powerplant Mechanics
Career Certificate Program Number: T640400

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

CTE Standards and Benchmarks	FAA FAR Part 147
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 Write logical and understandable statements or phrases to accurately complete forms/invoices commonly used in business and industry.	
08.02 Read and understand graphs, charts, diagrams, and tables commonly used in this industry/occupation area.	
08.03 Read and follow written and oral instructions.	
08.04 Answer and ask questions coherently and concisely.	
08.05 Read critically by recognizing assumptions and implications and by evaluating ideas.	
08.06 Demonstrate appropriate telephone/communication skills.	
09.0 Demonstrate employability skills as an Aviation Maintenance General Technician.-The student will be able to:	

CTE Standards and Benchmarks	FAA FAR Part 147
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 Identify appropriate responses to criticism from employer, supervisor, or other employees.	
09.07 Identify work habits for getting and keeping a job.	
09.08 Explain how to make job changes.	
09.09 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 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 Calculate and measure capacitance and inductance.	App. B, A, 1. Level 2
13.02 Calculate and measure electrical power.	App. B, A, 2. Level 2
13.03 Measure voltage, current, resistance, and continuity.	App. B, A, 3. Level 3

CTE Standards and Benchmarks	FAA FAR Part 147
13.04 Determine the relationship of voltage, current, and resistance in electrical circuits.	App. B, A, 4. Level 3
13.05 Read and interpret aircraft electrical-circuit diagrams, including solid-state devices and logic functions.	App. B, A, 5. Level 3
13.06 Inspect and service batteries.	App. B, A, 6. Level 3
13.07 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: AMT0775
Occupational Completion Point: B (1 of 2)
Aviation Maintenance Powerplant Technician 1 – 450 Hours – SOC Code 49-3011

Course Description:

The Aviation Maintenance Powerplant 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 reciprocating engines, turbine engines, inspection, instruments, fire-protection, electrical, lubrication, ignition, and starting systems.

CTE Standards and Benchmarks	FAA FAR Part 147
15.0 Perform basic reciprocating engine skills.-The student will be able to:	
15.01 Inspect and repair a radial engine.	App. D, I, A, 1. Level 1
15.02 Overhaul a reciprocating engine.	App. D, I, A, 2. Level 2
15.03 Inspect, check, service, and repair reciprocating engines and engine installations.	App. D, I, A, 3. Level 3
15.04 Install, troubleshoot, and remove reciprocating engines.	App. D, I, A, 4. Level 3
16.0 Perform basic turbine engine skills.-The student will be able to:	
16.01 Overhaul a turbine engine.	App. D, I, B, 5. Level 2
16.02 Inspect, check, service, and repair turbine engines and turbine engine installations.	App. D, I, B, 6. Level 3
16.03 Install, troubleshoot, and remove turbine engines.	App. D, I, B, 7. Level 3
17.0 Perform engine inspection.-The student will be able to:	
17.01 Perform Powerplant conformity and airworthiness inspections.	App. D, I, C, 8. Level 3
18.0 Maintain engine instrument systems.-The student will be able to:	
18.01 Troubleshoot, service, and repair electrical and mechanical fluid rate-of-flow indicating systems.	App. D, II, A, 9. Level 2
18.02 Inspect, check, service, troubleshoot, and repair electrical and mechanical engine temperature, pressure, and rpm indicating systems.	App. D, II, A, 10. Level 2
19.0 Maintain engine fire-protection systems.-The student will be able to:	
19.01 Inspect, check, service, troubleshoot, and repair engine fire-detection and extinguishing systems.	App. D, II, B, 11. Level 3
20.0 Maintain engine electrical systems.-The student will be able to:	
20.01 Repair engine electrical system components.	App. D, II, C, 12. Level 2

CTE Standards and Benchmarks	FAA FAR Part 147
20.02 Install, check, and service engine electrical wiring, controls, switches, indicators, and protective devices.	App. D, II, C, 13. Level 3
21.0 Maintain lubrication systems.-The student will be able to:	
21.01 Identify and select lubricants.	App. D, II, D, 14. Level 2
21.02 Repair engine lubrication system components.	App. D, II, D, 15. Level 2
21.03 Inspect, check, service, troubleshoot, and repair engine lubrication systems.	App. D, II, D, 16. Level 3
22.0 Maintain ignition and starting systems.-The student will be able to:	
22.01 Overhaul magneto and ignition harness.	App. D, II, E, 17. Level 2
22.02 Inspect, service, troubleshoot, and repair reciprocating and turbine engine ignition systems and components.	App. D, II, E, 18. Level 2
22.03 Inspect, service, troubleshoot, and repair turbine engine electrical starting systems.	App. D, II, E, 19a. Level 3
22.04 Inspect, service, and troubleshoot turbine engine pneumatic starting systems.	App. D, II, E, 19b. Level 1

Course Number: AMT0776

Occupational Completion Point: B (2 of 2)

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

Course Description:

The Aviation Maintenance Powerplant Technician 2 course is designed to build on the skills and knowledge students learned in the Aviation Maintenance Powerplant Technician 1 course. Students explore career opportunities and requirements of a professional aviation mechanic. Students study fuel, metering, induction, airflow, cooling, exhaust, reverser, propellers, inductors, auxiliary power units, FAA Powerplant Rating licensing, employability skills, and entrepreneurship.

CTE Standards and Benchmarks	FAA FAR Part 147
23.0 Maintain fuel metering systems.-The student will be able to:	
23.01 Troubleshoot and adjust turbine engine fuel-metering systems and electronic-engine fuel controls.	App. D, II, F, 20. Level 1
23.02 Overhaul carburetor.	App. D, II, F, 21. Level 1
23.03 Repair engine fuel metering system components.	App. D, II, F, 22. Level 2
23.04 Inspect, check, service, troubleshoot, and repair reciprocating and turbine engine fuel-metering systems.	App. D, II, F, 23. Level 3

CTE Standards and Benchmarks	FAA FAR Part 147
24.0 Maintain engine fuel systems.-The student will be able to:	
24.01 Repair engine fuel system components.	App. D, II, G, 24. Level 2
24.02 Inspect, check, service, troubleshoot, and repair engine fuel systems.	App. D, II, G, 25. Level 3
25.0 Maintain induction and engine airflow systems --The student will be able to:	
25.01 Inspect, check, troubleshoot, service, and repair engine ice and rain control systems.	App. D, II, H, 26. Level 2
25.02 Inspect, check, service, troubleshoot, and repair heat exchangers, superchargers, and turbine engine airflow and temperature control systems.	App. D, II, H, 27. Level 1
25.03 Inspect, check, service, and repair carburetor air intake and induction manifolds.	App. D, II, H, 28. Level 3
26.0 Maintain engine cooling systems.-The student will be able to:	
26.01 Repair engine cooling system components.	App. D, II, I, 29. Level 2
26.02 Inspect, check, troubleshoot, service, and repair engine cooling systems.	App. D, II, I, 30. Level 3
27.0 Maintain engine exhaust and reverser systems.-The student will be able to:	
27.01 Repair engine exhaust system components.	App. D, II, J, 31. Level 2
27.02 Inspect, check, troubleshoot, service, and repair engine exhaust systems.	App. D, II, J, 32a. Level 3
27.03 Troubleshoot and repair engine thrust reverser systems and related components.	App. D, II, J, 32b. Level 1
28.0 Maintain aircraft propellers.-The student will be able to:	
28.01 Inspect, check, service, and repair propeller synchronizing and ice control systems.	App. D, II, K, 33. Level 1
28.02 Identify and select propeller lubricants.	App. D, II, K, 34. Level 2
28.03 Balance propellers.	App. D, II, K, 35. Level 1
28.04 Repair propeller control system components.	App. D, II, K, 36. Level 2
28.05 Inspect, check, service, and repair fixed-pitch, constant-speed, feathering propellers, and propeller-governing systems.	App. D, II, K, 37. Level 3
28.06 Install, troubleshoot, and remove propellers.	App. D, II, K, 38. Level 3
28.07 Repair aluminum alloy propeller blades.	App. D, II, K, 39. Level 3
29.0 Maintain unducted fans.-The student will be able to:	
29.01 Inspect and troubleshoot unducted fan systems and components.	App. D, II, L, 40. Level 1
30.0 Maintain auxiliary power units.-The student will be able to:	
30.01 Inspect, check, service, and troubleshoot turbine-driven auxiliary power units.	
31.0 Demonstrate knowledge of Federal Aviation Administration Powerplant licensing requirements.-The student	

CTE Standards and Benchmarks	FAA FAR Part 147
will be able to:	
31.01 Explain the requirements for obtaining FAA authorization to take the FAA Powerplant examinations.	
32.0 Demonstrate employability skills for an Aviation Maintenance Powerplant Technician (AMT) with an FAA Powerplant rating.-The student will be able to:	
32.01 Conduct a job search for an AMT position.	
32.02 Secure information about the requirements for an AMT in a particular firm.	
32.03 Identify documents that may be required when applying for an AMT position.	
32.04 Complete a job-application form correctly.	
32.05 Demonstrate competency in job-interview techniques.	
32.06 Identify or demonstrate appropriate responses to criticism from employer, supervisor, or other employees.	
32.07 Identify or adopt acceptable AMT work habits.	
32.08 Demonstrate knowledge of how to make job changes appropriately.	
32.09 Demonstrate acceptable employee health habits.	
32.10 Demonstrate knowledge of the Federal Law as recorded in (29 CFR-1910.1200).	
33.0 Demonstrate an understanding of entrepreneurship related to opportunities in Aviation Powerplant Maintenance occupations.-The student will be able to:	
33.01 Define entrepreneurship.	
33.02 Describe the importance of entrepreneurship to the Aviation Maintenance industry.	
33.03 List the advantages and disadvantages of Aviation Maintenance business ownership.	
33.04 Identify the risks involved in ownership of an Aviation Maintenance business.	
33.05 Identify the necessary personal characteristics of a successful Aviation Maintenance business owner.	
33.06 Identify the business skills needed to operate an Aviation Maintenance business efficiently and effectively.	

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.

MyCareerShines is an interactive resource to assist students in identifying their ideal career and to enhance preparation for employment. Teachers are encouraged to integrate this resource into the program curriculum to meet the employability goals for each student. Access MyCareerShines by visiting: www.mycareershines.org.

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: Mathematics 10.0, Language 9.0, and Reading 10.0. 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(7), 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(3)(a), F.S., may also be exempted from meeting the Basic Skills requirement. Each school district and Florida College must adopt a policy addressing procedures for exempting eligible students with disabilities from the Basic Skills requirement as permitted in Section 1004.91(3), F.S.

Students who possess a college degree at the Associate of Applied Science level or higher; who have completed or are exempt from the college entry-level examination; or who have passed a state, national, or industry licensure exam are exempt from meeting the Basic Skills requirement (Rule 6A-10.040, F.A.C.) Exemptions from state, national or industry licensure are limited to the certifications listed on the Basic Skills and Licensure Exemption List which may be accessed from the CTE Program Resources page.

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>

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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

Teach-
ing
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.

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

Teach-
ing
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.

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.

Federal Aviation Administration, DOT

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II. AIRFRAME SYSTEMS AND COMPONENTS—
Continued

- | | |
|------------------------|--|
| Teach-
ing
level | |
| | 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

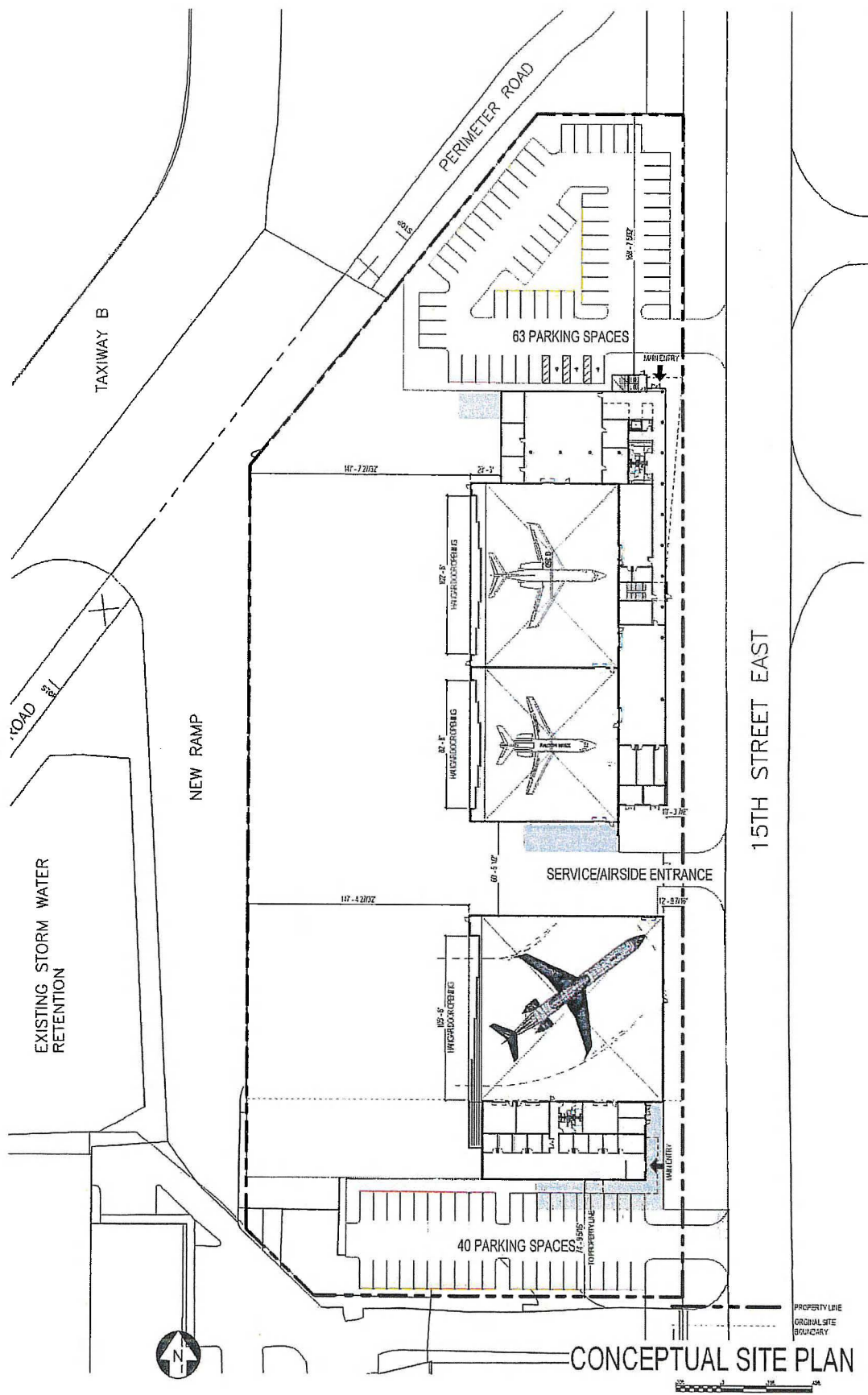
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|------------------------|--|
| Teach-
ing
level | |
| | A. RECIPROCATING ENGINES |
| (1) | 1. Inspect and repair a radial engine. |
| (2) | 2. Overhaul reciprocating engine. |
| (3) | 3. Inspect, check, service, and repair reciprocating engines and 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

- | | |
|------------------------|---|
| Teach-
ing
level | |
| | A. ENGINE INSTRUMENT SYSTEMS |
| (2) | 9. Troubleshoot, service, and repair electrical and mechanical fluid rate-of-flow indicating systems. |

II. POWERPLANT SYSTEMS AND COMPONENTS—
Continued

- | | |
|------------------------|--|
| Teach-
ing
level | |
| (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. |
| | 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. |
| (2) | 34. Identify and select propeller lubricants. |
| (1) | 35. Balance propellers. |
| (2) | 36. Repair propeller control system components. |



TAXIWAY B

PERMETER ROAD

63 PARKING SPACES

AMPHIBIOUS

ROAD 8/1

NEW RAMP

EXISTING STORM WATER RETENTION

102'-8\"/>

SERVICE/AIRSIDE ENTRANCE

102'-8\"/>

107'-5 1/2\"/>

40 PARKING SPACES

NON-SERVICE

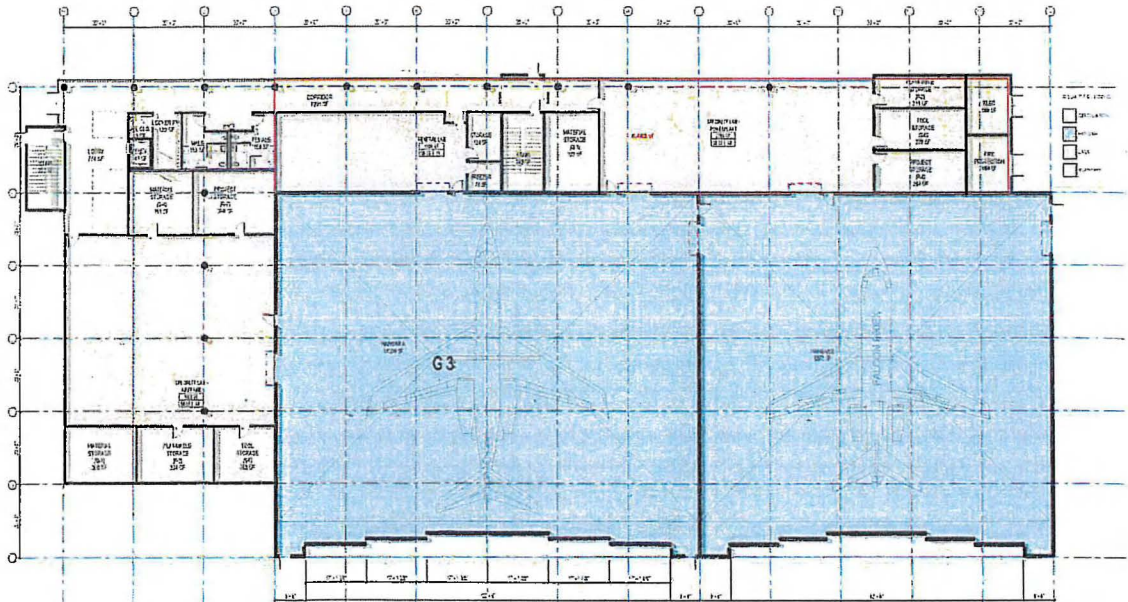
15TH STREET EAST



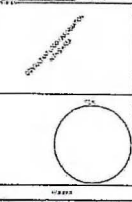
CONCEPTUAL SITE PLAN

PROPERTY LINE
ORIGINAL SITE BOUNDARY





SCHENKELSHULTZ
 2100 ...
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project_name
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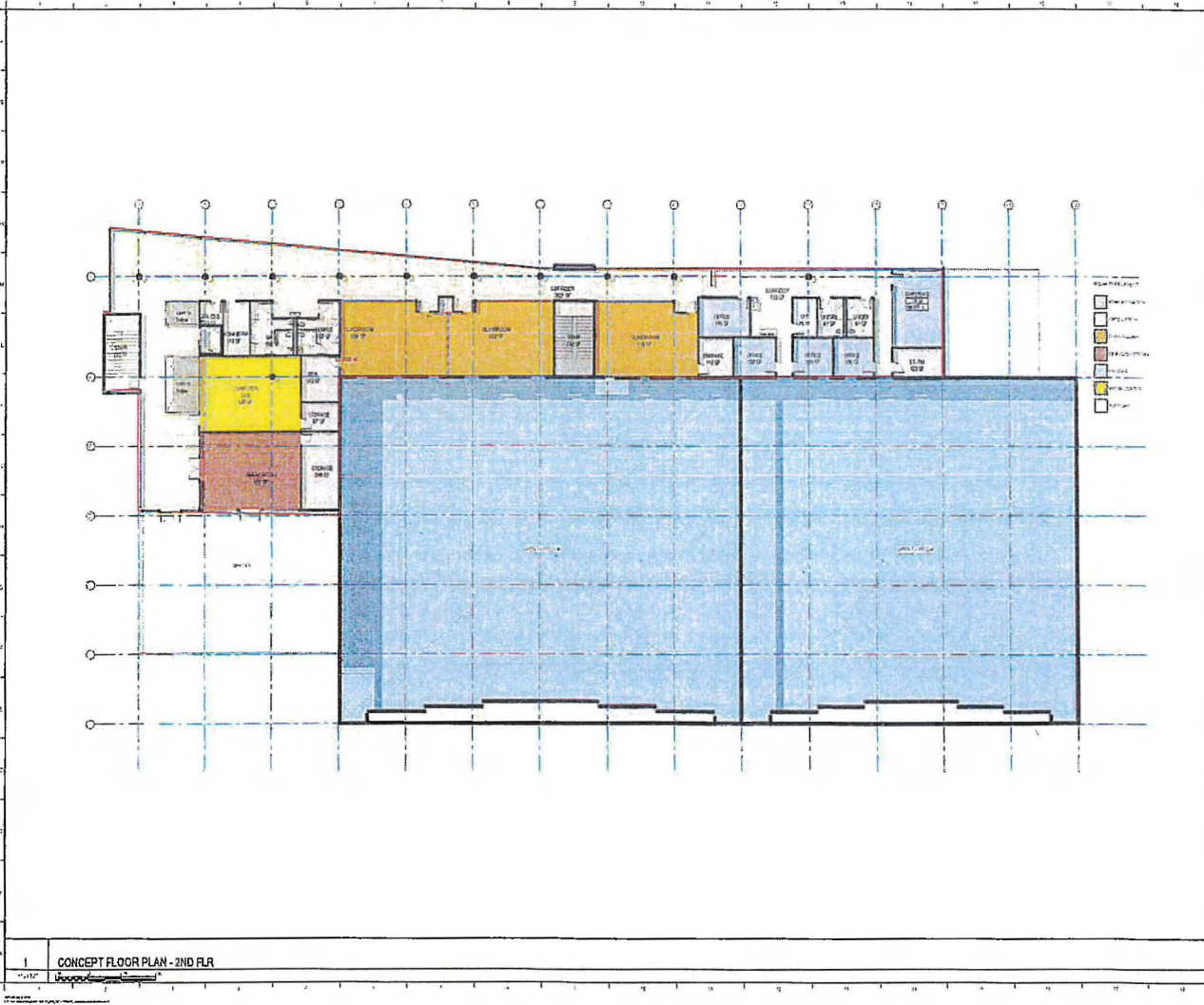


ARCHITECTURAL FIRST
 FLOOR PLAN - AMTS HANGAR

A101

submittal phase

1
 CONCEPT FLOOR PLAN - 1ST FLR



SCHENKELSHULTZ
 1000 ...
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ARCHITECTURAL SECOND FLOOR PLAN - AMTS HANGAR

A102

submital photo

1 CONCEPT FLOOR PLAN - 2ND FLR



AERIAL VIEW



PERSPECTIVE OF BUILDING 1 ENTRY (NORTH-EAST CORNER)

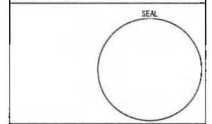


PERSPECTIVE OF BUILDING 1 ENTRY (SOUTH-EAST CORNER)

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ARCHITECTURE

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SS Lic. No. AA-C006937

CONSULTING CONTRACT: 2012-01-01
100% DESIGN: 2012-01-01
100% CONSTRUCTION: 2012-01-01



REVISIONS

NO.	DESCRIPTION	DATE

PROJECT INFORMATION

SRQ
MAINTENANCE
HANGARS



SRQ AIRPORT AUTHORITY
3900 AIRPORT CIRCLE
SARASOTA, FL 34243

ISSUE DATE: 12/4/2019
DRAWING NO.: 1107721

DRAWN BY: Author CHECKED BY: Checker

PERSPECTIVES

A600